SONY

DIGITAL VIDEO CAMERA

DXC-D30/D30P

SERVICE MANUAL

Vol. 1 (1st Edition)

Power HAD

Printed by: Schaltungsdienst Lange, Berlin (Germany)

Introducing this manual

This manual is the Service Manual Vol. 1 of the DIGITAL VIDEO CAMERA DXC-D30 and DXC-D30P.
This manual contains the operation manual related to the operations of this equipment, the replacement of the parts and adjustments.

Related manuals

In addition to this Service Manual Vol. 1, the following manuals are provided.

- **Service Manual Vol. 2**
Part No. 9-977-263-21
Contains block diagrams, board layouts, schematic diagrams, semiconductor pin assingments and parts lists.

- **Service Manual DXF-701/701CE**
Part No. 9-977-265-01
See the DXF-701/701CE service manual available separately.

- **Service Manual VCT-U14**
Part No. 9-977-221-01
See the VCT-U14 service manual available separately.

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SONY

3-858-217-11(1)

Color Video Camera

Operating Instructions
Before operating the unit, please read this manual thoroughly and retain it for future reference.

Power HAD

DXC-D30F/D30PF
DXC-D30K/D30PK
DXC-D30L/D30PL
DXC-D30H/D30PH

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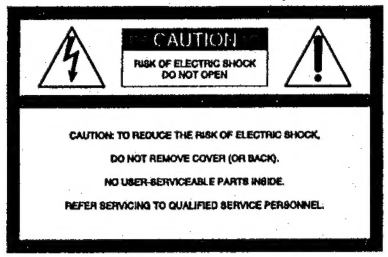
SECTION 1
OPERATING INSTRUCTIONS

This section is extracted from operation manual.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Owner's Record

The model and serial numbers are located on the top. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No._____ Serial No._____

LITHIUM BATTERY
Should only be changed by technical personnel. There is a risk of explosion if handled improperly.

LITIUMBATTERI
Bör endast bytas av servicepersonal. Explosionsfara vid felaktig hantering.

ADVARSEL!
Lithiumbatteri - Eksplosionsfare
Udskiftning må kun foretages af en sagkyndig, og som beskrevet i servicemanualen.

For customers in the USA
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

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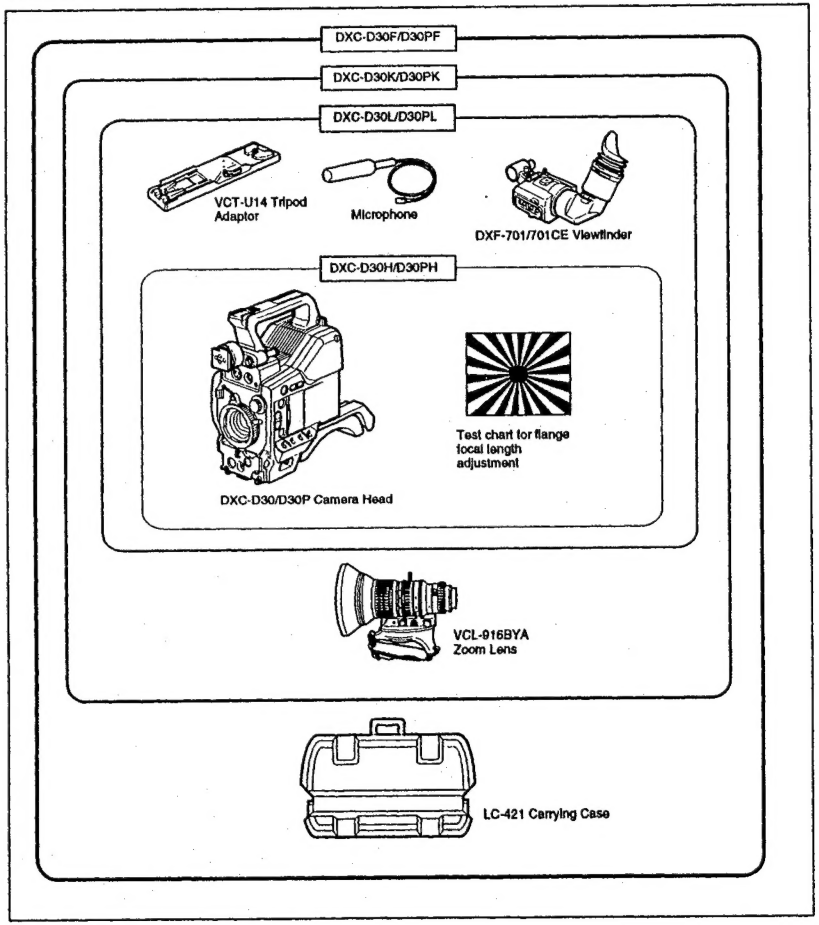
Product Configurations

The eight models, DXC-D30F, DXC-D30K, DXC-D30L, DXC-D30H, DXC-D30PF, DXC-D30PK, DXC-D30PL, and DXC-D30PH, comprise both NTSC and PAL versions and the components as shown in the figure below. The operation of the basic camera unit is the same in all cases.



Camera adaptor

The product kit does not include a camera adaptor: to use a camera adaptor, you will need to purchase a model CA-537/537P or CA-327/327P.

Features

2/3-inch IT type Power HAD CCD

This technology outperforms conventional FIT-type HAD CCD camera in both picture quality and sensitivity.

- Smear: –125 dB
- Sensitivity: F11.0 (at 3200 K, 2000 lux)
- S/N: 63 dB (DXC-D30) or 61 dB (DXC-D30P)

Sophisticated image processing

TruEye™ processing makes possible the following performance features. This new digital signal processing has brought reproduction of natural colors to the level achieved by the human eye.

DynaLatitude™

Enables detailed adjustment of contrast control in each pixel in accordance with a histogram of luminance signal levels.

DCC+ (dynamic contrast control plus)

Prevents white breakeup when shooting a high intensity subject, and also prevents color faults in high intensity subject.

Black stretch and compress

Enables control of luminance signal levels in black areas without changing the hue.

Variety of detail corrections

- Skin detail function: this function gives a slightly softer appearance to the subject's face. The target skin color can be automatically set.
- Black halo correction
- Red/green vertical detail correction: this function performs vertical detail compensation for both red and green signals.
- Horizontal detail frequency control

Recording and managing setup data

In addition to the setup menu that is displayed in the viewfinder screen, the DXC-D30/D30P is equipped with the following functions to facilitate camera head setup.

Setup file system

You can use setup files when making adjustments or settings. The DXC-D30/D30P comes with factory preset files that contain shipped settings and you can freely create user files as well.

Automatic recording of setup data (when using DSR-1/1P)

When the DXC-D30/D30P is connected to the DSR-1/1P VTR, two types of setup data can be recorded.

SetupLog™: Shooting-related environment settings are recorded onto the tape every few seconds. This recorded data can then be used to reproduce the same shooting conditions in subsequent shots. It also makes it easier to identify the causes of problems in previous shots.

SetupNavi™: The setup conditions selected with the setup menu and setup files are recorded onto the tape. The recorded setup data can be copied to other camera heads so that the same setup can be shared among several camera heads.

ClipLink™ Function (when using DSR-1/1P)

The ClipLink function can be used at every step from acquisition to editing. Information necessary for editing is recorded when shooting to ensure fast and efficient editing operations.

When you set a recording start (Rec IN) point or when you press the TAKE button to set a Mark IN point, the video image at that point is recorded on the tape in compressed form as an Index Picture. In addition, the time codes for such editing points (Mark IN/Mark OUT points or Cue points) are recorded along with other editing point data (such as the cassette number and scene number) into cassette memory (as ClipLink log data). Unsuccessful scenes containing faults can also be marked in cassette memory as "NG", so that only the good scenes are taken up from cassette memory when editing.

Dockable with various types of VTRs

The DXC-D30/D30P docks with the DSR-1/1P DVCAM VTR to configure the DSR-130/130P digital camcorder. It also docks with the PVV-3/3P Betacam SP VTR to configure the PVW-D30/D30P Betacam SP camcorder. In addition, the DXC-D30/D30P docks with the EVV-9000/9000P Hi-8 VTR. Using an adaptor (not supplied), it is also able to dock with a variety of existing S-VHS VTRs.

New Functions boost operability

EZ (easy) mode function

When there isn't time to check the camera head settings, simply press the EZ mode button to start the auto adjustment function using standard settings. There is no need to lose a shot for lack of setup time.

EZ (easy) focus

Press the EZ focus button before shooting to ensure a quick and accurate focus.

Programmable gain

The amount of gain relative to the GAIN switch setting (H, M, or L) can be programmed as –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB+DPR[1], 24 dB, 24 dB+DPR and hyper gain.

Hyper gain

Hyper gain (36 dB, or about 60 times greater than 0 dB) can be easily set via one switch setting. This can also be done from remote equipment.

Auto tracing white balance

This function automatically traces the white balance, which constantly changes as lighting conditions change. Auto tracing white balance is especially useful when there is no time to manually adjust the white balance or when shooting moves between indoor and outdoor locations.

Intensified auto iris control

In addition to the standard auto iris, the intelligent auto iris function adjusts the lens iris to compensate back lighting or spot lighting.

Total level control system (TLCS)

Even if the incoming light exceeds the range in which the standard auto iris can control exposure, the auto gain control (AGC) or auto exposure (AE) backs up to ensure proper exposure.

Dual pixel readout (DPR)

When the gain is set to either 18 dB or 24 dB, the gain setting can be doubled (6 dB up) without increasing the noise level.

Recording time display

Recording time can be displayed in either of the following modes.

- Total recording time for all cuts
- Total recording time for current cut

Viewfinder super detail

Video signals for the viewfinder are mixed with V-DTL signals to make focusing easier.

Dual zebra pattern display

Two types of zebra patterns, zebra 1 and zebra 2 can be displayed simultaneously or independently. The zebra 1 can be set to the levels ranging from 70 to 90 IRE (or 70 to 90 %) and the zebra 2 indicates the levels of 100 IRE or more (or 100% or more).

Color temperature display

When reading the white balance, the color temperature is displayed on the viewfinder screen.

Video monitor output with text

The video signal with text superimposed that is shown in the viewfinder can also be output to an external video monitor.

Camera head microphone output indicator

An indication ♪ appears in the viewfinder whenever a signal is being output from the camera head's microphone.

1-kHz reference signal output

Along with a color bar, a 1-kHz reference signal can also be output.

1) DPR = Dual Pixel Readout

Features

Freeze mix function (when using DSR-1/1P)

The freeze mix function superimposes any previously recorded still picture on the viewfinder screen to facilitate framing the subject when reshooting the scene.

Edit Search Function (when using DSR-1/1P)

When using the DXC-D30/D30P with the DSR-1/1P, pressing the EDIT SEARCH buttons allow the tape to play back in search mode. Set either of two playback speeds.

Designed for ease of operation

Adjustable shoulder pad

You can move the shoulder pad forward or backward to set a comfortable, well-balanced position.

Slide cover

The slide cover can hide the switches and buttons that are seldom used during shooting. The cover can be locked so as not to open during shooting.

High-performance viewfinder (DXF-701/701CE)

- High resolution (600 TV lines of horizontal resolution)
- Large-diameter eye cup for easier viewing and focusing
- PEAKING potentiometer for vertical and horizontal detail control
- Two indicators can be used as TALLY indicators
- Tough die-cast aluminum body

VTR data display

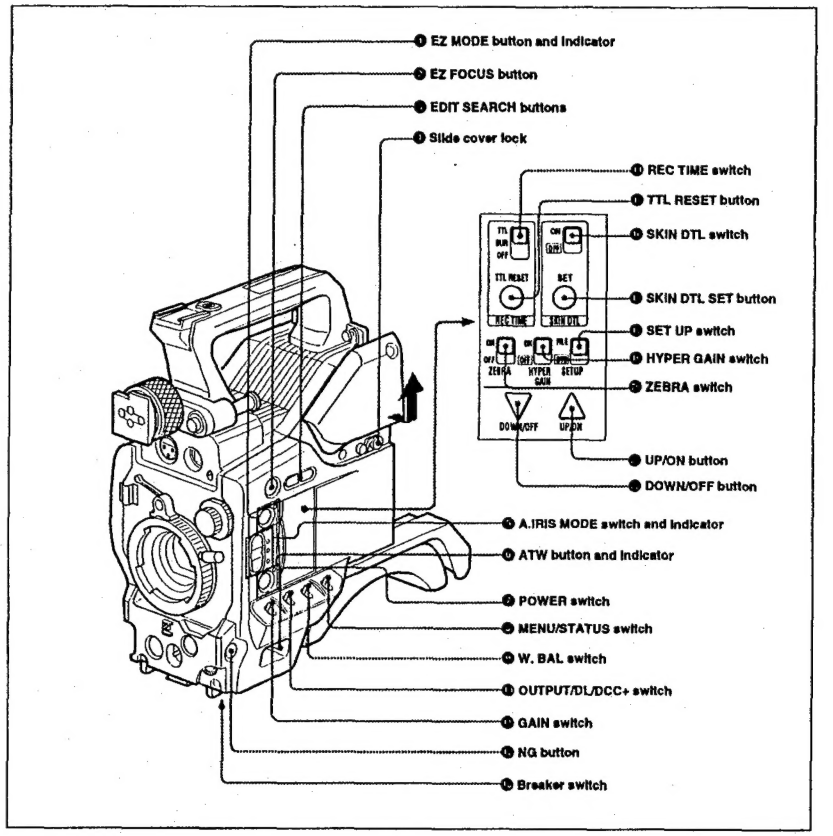
When connected to a VTR, the DXC-D30/D30P is able to display the following data on the viewfinder screen.

- Time values (counter, time code, or user bit vales)
- VTR audio levels
- Remaining tape time
- VTR operation mode
- Remaining battery capacity (when using an Anton Bauer Intelligent Battery System)
- ClipLink function (when using the DSR-1/1P)

Location and Function of Parts

Camera Head

Right side view



Location and Function of Parts

❶ EZ ("easy") MODE button and indicator
Set this switch to the ON position when you want to be able to shoot immediately, with automatic adjustment of the camera settings to standard values. *(See page 61.)* When this function is used, the iris and the white balance are adjusted automatically. (The total level control system functions.) Moving this switch to the OFF position returns the camera to the previous settings.

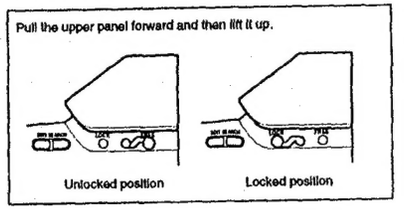
Note
When connecting the CCU-M3/M5/M7 (or CCU-M3P/M5P/M7P) Camera Control Unit or the RM-M7G Remote Control Unit, the "easy mode" function is disabled.

❷ EZ FOCUS button
Press this button to turn the "easy focus" function on. This opens the iris, to make it easier to focus before beginning shooting. The indication "EZ FOCUS" appears in the viewfinder while the function is on; to turn it off, press the EZ FOCUS button again. If left on, the function automatically turns off after about ten seconds.

Note
If the "easy focus" function is still on when you press the VTR button, it turns off automatically and recording starts about one second later.

❸ EDIT SEARCH buttons (for operation with DSR-1/1P)
When using the DSR-1/1P to record, you can see the search playback while pressing either of these buttons at recording pause mode to quickly find the next recording start point. Two playback speeds are available, and press either of the buttons to the inner position to increase the speed.

❹ Slide cover lock
This lock keeps the slide cover closed.



❺ A.IRIS (auto iris) MODE switch and indicator
When you use the auto iris function (by setting the iris selector on the lens to A), set this switch to suit the shooting conditions. Selecting BACK L gives more light to back-lit subjects, and selecting SPOT L adjusts for high contrast in spot-lit subjects. For normal shooting, set this switch to STD.

❻ ATW (auto tracing white balance) button and indicator
Press this button, turning the indicator on, when you want the white balance to be adjusted automatically to follow changes in lighting conditions. *(See page 73.)*

❼ POWER switch
This powers the camera on and off. There are two different ON settings as follows.
ON STBY: This puts the VTR on standby. In this state, pressing the VTR button on the camera head, the lens or a camera adaptor starts recording immediately.
ON SAVE: This puts the VTR in the power-saving state, with the video head drum stationary. In this state, it takes a few seconds to start recording after pressing the VTR button.

The VTR state when this switch is in the ON STBY or ON SAVE position may depend on the VTR model.

❽ MENU/STATUS switch
When you press this switch to the MENU position, the basic menu is displayed. Keep pressing it to the MENU position to cycle through the various menu displays. When you press the switch to the STATUS position, the DXC-D30/D30P's status (of current settings) is displayed.

❾ W. BAL (white balance) switch
This selects the white balance setting from the preset value, the value in memory A or the value in memory B. *(See page 71.)*

❿ OUTPUT/DL/DCC+ (DynaLatitude/dynamic contrast control plus) switch
Use this switch to select the DCC+ function, the DynaLatitude function, or color bar output.
Select the CAM/DCC+ position in most cases.
CAM/DCC+: This activates the DCC+ function. This prevents color faults when shooting high-intensity subjects.
CAM/DL: This setting uses the DynaLatitude function, which finely adjusts the contrast of each pixel according to a histogram of luminance signal levels. Access advanced menu page 2 to set the DynaLatitude function ON or OFF. The DynaLatitude effect can be set to any of three levels, Low, STD (standard), and High with the basic menu page 3.
BARS: This setting displays color bars.

For details of menu operation, see Chapter 4 "Viewfinder Screen Displays and Menus".

⓫ GAIN switch
This selects one of the three gain settings, high, medium or low. You can choose the gain values assigned to the H, M and L settings from values from –3 dB to 24 dB + DPR and hyper gain. *(See page 57.)* The factory default selections are 18 dB (H), 9 dB (M) and 0 dB (L).

Note
When the HYPER GAIN switch ⓳ is in the ON position, the GAIN switch has no effect.

⓬ NG button
When using the ClipLink function during shooting, you can designate a particular scene as "NG" (No Good) by pressing this button before shooting the next scene. Press the button again to cancel the NG setting.

⓭ Breaker switch
If there is a fault in the camera power supply, the breaker trips, and the camera power supply is disconnected. Correct the fault in the power supply, then press this switch.

⓮ REC (recording) TIME switch
This selects the recording time indication in the viewfinder.
TTL: Displays the total recording time. The total recording time is not reset even when you stop the VTR and power off the camera, for example, to replace the battery pack.
DUR: Displays the recording time of the current cut.
OFF/TC: Switches off the recording time display. If, however, a PVV-3/3P is connected, and in the advanced menus you set the time code display item (TC IND) to ON *(see page 59)*, then the VTR time data (time code, CTL count, or user bit value) is displayed.

Note
The recording time displayed when this switch is set to the TTL or DUR position is obtained by counting the duration of the internal reference signal input to the camera.
The value may not agree exactly with the value derived from the time code values. Furthermore, the value displayed may not be correct when another manufacturer's VTR is connected to the camera.

⓯ TTL (total) RESET button
Pressing this button resets the total recording time (TTL selection) to zero.

⓰ SKIN DTL (skin detail) switch
Set this switch to ON to use the skin detail correction function.

For details, see "Skin Detail Correction" (page 84).

⓱ SKIN DTL (skin detail set) SET button
Press this button with the SKIN DTL button ⓰ to display the area detect cursor on the viewfinder screen. Place the cursor on the target and press this button to perform skin detail correction.

For details, see "Skin Detail Correction" (page 84).

⓲ SET UP switch
Use this switch to select the camera head setup method.
STD: Set up using the setup menu. Setup file data is not displayed.
FILE: Set up using setup files and the setup menu.

⓳ HYPER GAIN switch
Setting this switch to the ON position increases the gain by a factor of about 60 with respect to 0 dB (a 30 dB increase by electronic amplification and a 6 dB increase for DPR, bringing about a total gain increase of 36 dB).
When this switch is in the ON position, the indication "HYPER" appears in the viewfinder, and the GAIN UP indicator in the viewfinder also lights.
When finished shooting, return this switch to the OFF position. The "HYPER" indication disappears and the GAIN UP indicator goes out.

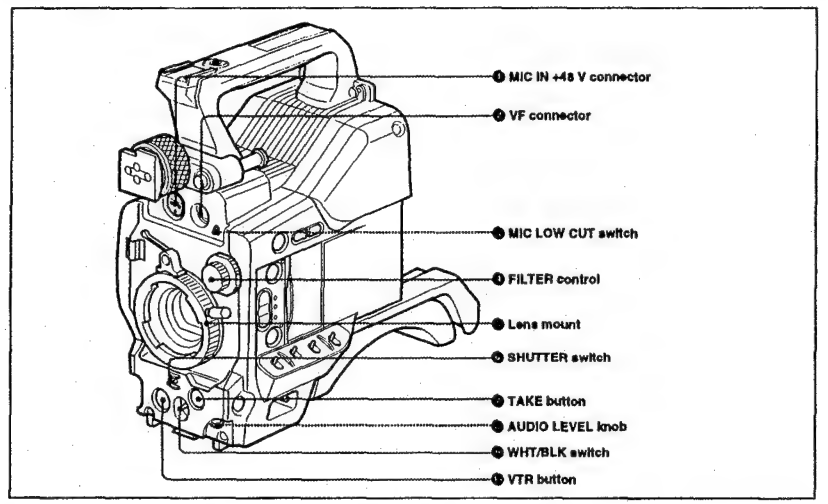
Note
Increasing the gain with this switch reduces the horizontal resolution by 50%.

⑳ ZEBRA switch
Set this switch to the ON position to display a zebra pattern (diagonal stripes) in the viewfinder. Depending on the zebra setting in the advanced menu page 4, the zebra 1 for video levels between 70 to 90 IRE (or 70 to 90%) and the zebra 2 for video levels 100 IRE or more (or 100% or more) can be displayed independently or simultaneously.

㉑ UP/ON button
Use this button to open displays and to make "ON" settings. When using the advanced menus, use this button to change menu pages or to switch to the ordinary screen display.

㉒ DOWN/OFF button
Use this button to close displays and to make "OFF" settings. You can also use this button to change menu pages when using the advanced menus.

Front view



❶ MIC (microphone) IN +48 V connector (XLR 3-pin, female)
Connect the supplied microphone or an optional microphone (operable with a 48 V supply).

❷ VF (viewfinder) connector (20-pin)
This is the connector for the DXF-701/701CE viewfinder.

Note
When using this connector, do not connect a DXF-40B/50B (or DXF-40BCE/50BCE) viewfinder to the VF connector on the left side.

❸ MIC LOW CUT switch
Set this switch to the ON position to insert a high-pass filter in the microphone circuit, reducing wind noise. Normally leave the switch in the OFF position.

❹ FILTER control
Select the color temperature conversion filter appropriate to the lighting conditions. *(See page 39.)*

❺ Lens mount
Attach the zoom lens here.

❻ SHUTTER switch
Use this switch to set the shutter speed, CLS (clear scan), or EVS setting *(see page 75)*. Usually, set this switch to OFF.

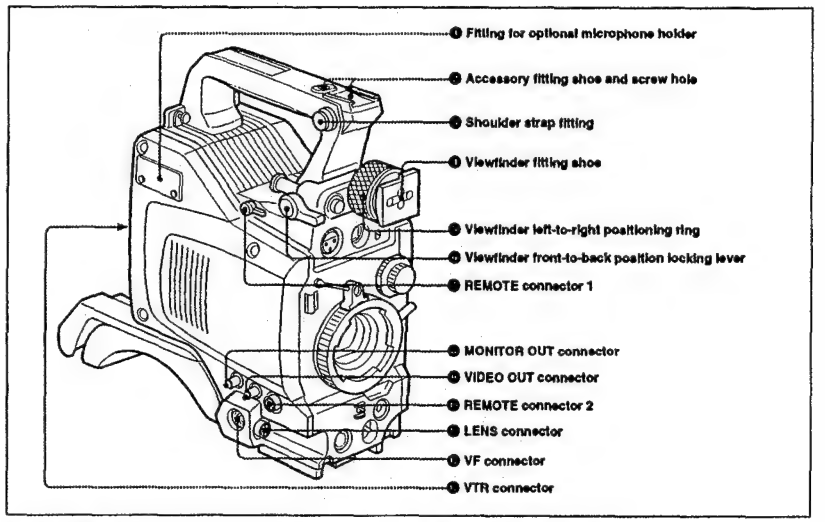
❼ TAKE button
Press this button to specify an editing point (Mark IN/OUT or cue point) at the current tape position during shooting.

❽ AUDIO LEVEL knob
When the DSR-1/1P is attached, you can use this knob to manually adjust the channel 1 audio recording level.

❾ WHT/BLK (white/black) switch
This switch is used for automatic adjustment of the white balance and black balance. *(See pages 71 to 74.)*

❿ VTR button
Pressing this button starts and stops recording on the VTR.

Left and upper view



❶ Fitting for optional microphone holder
You can fit an optional CAC-12 Microphone Holder here. *(See page 29.)*

❷ Accessory fitting shoe and screw hole
Attach optional video lights or other accessories here.

❸ Shoulder strap fixture
To use the supplied shoulder strap, fix one end here and the other end to the VTR.

❹ Viewfinder fitting shoe
Fix the DXF-701/701CE Viewfinder here.

❺ Viewfinder left-to-right position fixing ring
Loosen this ring to adjust the left-to-right position of the viewfinder. *(See page 28.)*

❻ Viewfinder front-to-back position locking catch
Release this catch to adjust the front-to-back position of the viewfinder. *(See page 28.)*

Location and Function of Parts

❼ REMOTE connector 1 (mini-jack)
Use this connector to connect the switch for enabling remote operation of the ClipLink function.

For details of connectable switches, contact your Sony dealer.

❽ MONITOR OUT connector (BNC)
Outputs both the camera video and the character information as displayed on the viewfinder screen. You can connect an optional LCD color monitor to this connector.

❾ VIDEO OUT connector (BNC)
This outputs the video signal captured by the camera.

❿ REMOTE connector 2 (10-pin)
Connect the optional RM-M7G Remote Control Unit to this connector. Set the CAMERA HEAD SELECT switch on the bottom of RM-M7G to 1.

Notes

When using the RM-M7G, note the following points.
- When operating the camera head head from the camera head control unit, connect the RM-M7G to the camera head control unit.
- EZ mode cannot be used if the RM-M7G is connected to the camera head.

⓫ LENS connector (12-pin, for ⅔-inch lens)
Connect the lens connector.

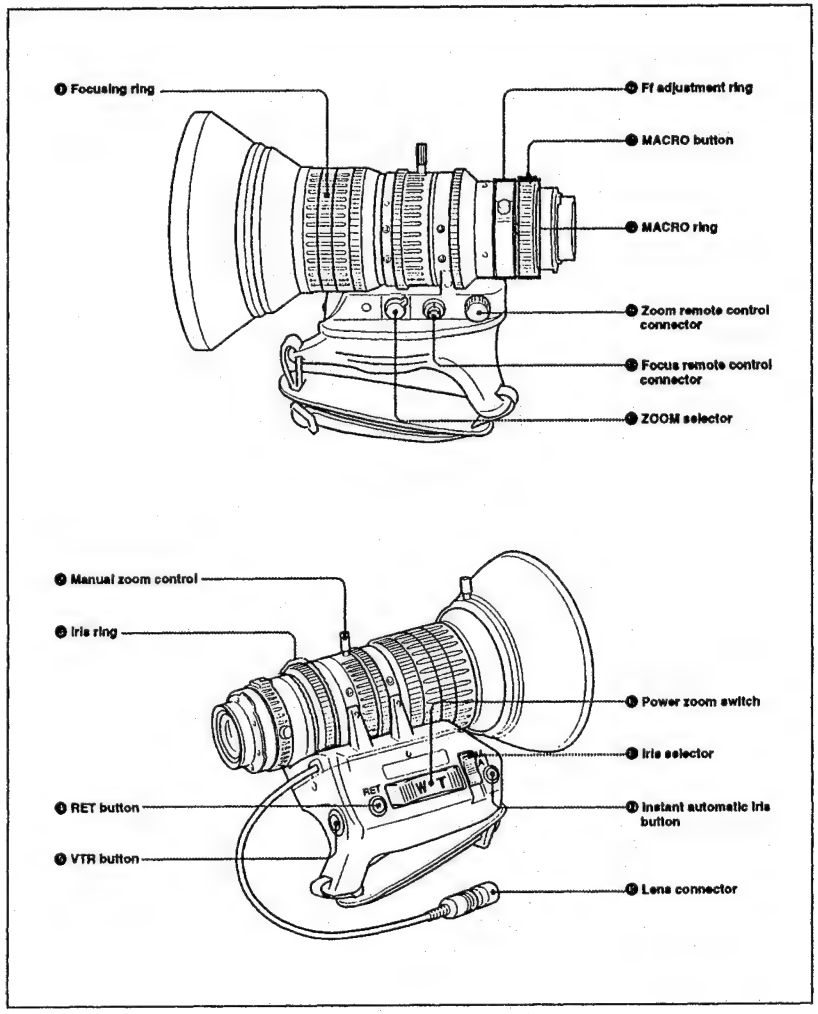
⓬ VF (viewfinder)connector (8-pin)
This is the connector for the DXF-40B/50B (or DXF-40BCE/50BCE) viewfinder.

Note

When using this connector, do not connect a DXF-701/701CE viewfinder to the VF connector on the front of the camera head head.

⓭ VTR connectors (PRO 76-pin DIGITAL and PRO 50-pin)
Connect a dockable VTR. A PRO 76-pin DIGITAL connector is for the DSR-1/1P and a PRO 50-pin connector is for the PVV-3/3P or a camera adaptor.

VCL-916BYA Zoom Lens



❶ Focusing ring
Turn this ring to focus the lens on the subject.

❷ Manual zoom control
For direct manual zoom control, set the ZOOM selector to the "M" position, and turn this control.

❸ Iris ring
For manual iris control, set the iris selector to the "M" position, and turn this control.

❹ RET (return) button
This allows you to check the video signal as follows.
When operating with a portable VTR connected via other equipment: when the VTR is recording, pressing this button connects the E-E video signal[1] from the VTR to the viewfinder.
When operating with a DSR-1/1P or PVV-3/3P mounted on the camera head: when the VTR is in recording pause mode, press this button to review the last few seconds of the recording in the viewfinder (recording review).
When operating with a CCU-M3/M3P/M5/M5P M7/M7P Camera Control Unit connected: pressing this button connects the return video signal from the camera control unit to the viewfinder. When this button is not pressed, the viewfinder displays the video signal captured by the camera.

❺ VTR button
When operating with a VTR: this button starts and stops recording on the VTR. Press it once to start recording, and once more to stop.
When operating with a CCU-M3/M3P/M5/M5P M7/M7P Camera Control Unit connected: pressing this button connects the return video signal from the camera control unit to the viewfinder. (Starting and stopping recording is controlled on the VTR.)

❻ Ff (flange focal length) adjustment ring
To adjust the flange focal length, loosen the screw on this ring, then turn the ring. *(See page 80.)*

❼ MACRO button
For close-up work, hold this button down while turning the MACRO ring. *(See page 82.)*

❽ MACRO ring
For close-up work, hold the MACRO button down while turning this ring. *(See page 82.)*

❾ Zoom remote control connector (8-pin)
For remote control of zoom operations, connect an optional LO-23 Lens Remote Control Unit.

❿ Focus remote control connector (3-pin)
This is not used.

⓫ ZOOM selector
This selects the mode of zoom operation.
S (servo): power zoom
M (manual): manual zoom

⓬ Power zoom switch
Use this to carry out a power zoom.
W end: zoom toward wide angle
T end: zoom toward telephoto
Pressing the switch harder increases the zoom speed.

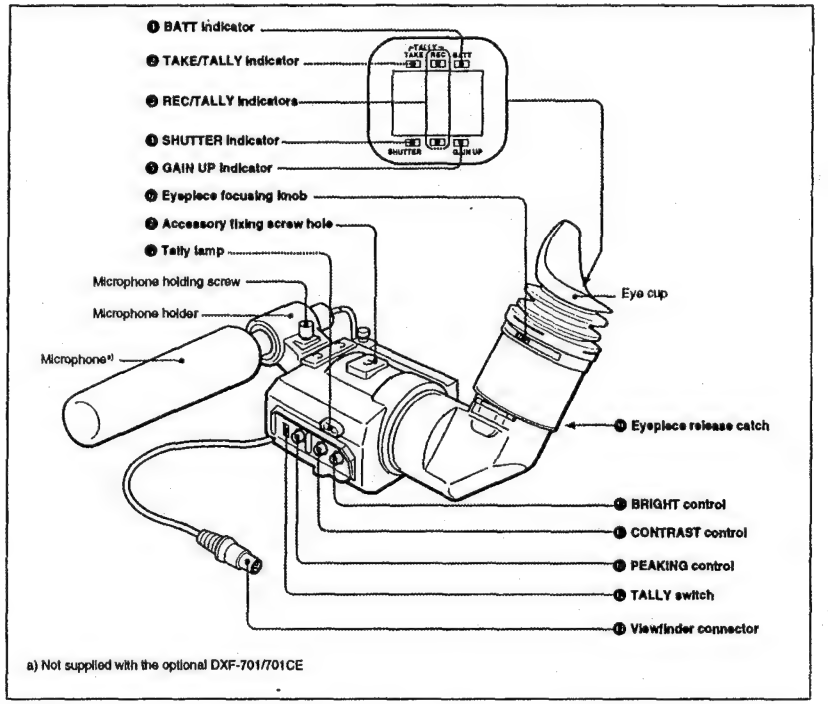
⓭ Iris selector
This selects the mode of iris operation. *(See page 81.)*
A (automatic): automatic iris
M (manual): manual iris

⓮ Instant automatic iris button
While using manual iris control, press this button to switch temporarily to the automatic iris control setting. The automatic setting is maintained as long as you hold the button down.

⓯ Lens connector
Connect this to the LENS connector on the camera head.

1) **E-E video signal:** "electric-to-electric" video signal. This is an output from the VTR of the input video signal which has passed through internal electrical circuits, but has not been converted to a magnetic signal in the heads or on the tape.

DXF-701/701CE Viewfinder



a) Not supplied with the optional DXF-701/701CE

❶ BATT (battery) indicator (red)
This indicates when the battery capacity is low. *(See page 37.)*

Note
When using a camera control unit, this indicator flashes when you operate the controls, but this is not a malfunction.

❷ TAKE/TALLY indicator (orange)
When using the ClipLink function while shooting, this indicator lights when the TAKE button has been pressed to set a Mark IN point and goes out when a Mark OUT point is set.

❸ REC/TALLY (recording/tally) indicators (red)
- From the time when you press the VTR button on the lens or camera head, this flashes until recording starts, then stays on continuously during recording.
- When using a camera control unit, this lights when the video from this camera is selected.
- This is also used to indicate a fault. *(See page 86.)*
- The lower indicator can be disabled by menu setting. *(See page 58.)*

❹ SHUTTER indicator (red)
This lights when the SHUTTER switch is in the ON position.

Location and Function of Parts

❺ GAIN UP indicator (orange)
This lights when the gain is 3 dB or more.

❻ Eyepiece focusing knob
Turn this to adjust the viewfinder focus to match your eyesight. *(See page 79.)*

❼ Accessory fixing screw hole
Attach optional video lights or other accessories here.

❽ Tally lamp
When the TALLY switch is in the ON position, this operates in the same way as the REC/TALLY indicators ❸.

❾ Eyepiece release catch
To view the viewfinder screen directly, press this catch, and hinge up the eyepiece.

❿ BRIGHT (brightness) control
This adjusts the brightness of the viewfinder image. *(See page 79.)*

⓫ CONTRAST control
This adjusts the contrast of the viewfinder image. *(See page 79.)*

⓬ PEAKING control
This adjusts the outline intensity of the viewfinder image. *(See page 79.)*

⓭ TALLY switch
Set this switch to the ON position to use the tally lamp ❽.

⓮ Viewfinder connector (20-pin)
Connect this to the VF connector (front) on the camera head.

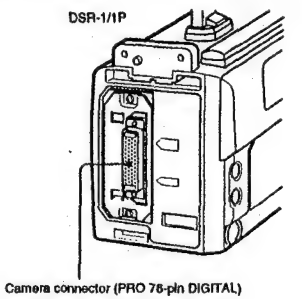
Fitting a VTR

This section explains how to attach the DSR-1/1P to the camera head. The method for attaching a PVV-3/3P is similar.

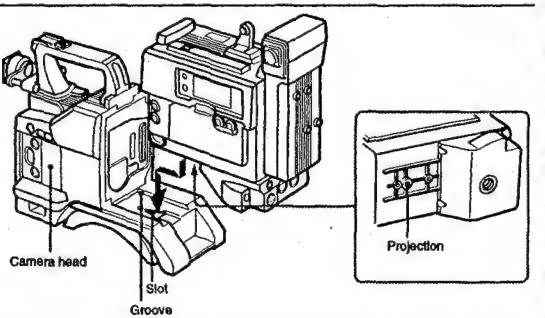
When replacing the camera head grip with a camcorder grip, see "Using the Camcorder Grip" (page 23).

1 Set the PRO 76-pin DIGITAL connector on the DSR-1/1P.

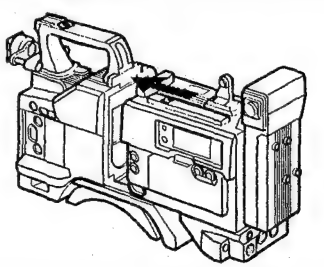
For details, see the operating instructions for the DSR-1/1P.



2 Align the projection on the bottom of the DSR-1/1P with the slot on the camera head.



3 Slide the DSR-1/1P and the camera head together in the groove as far as possible.

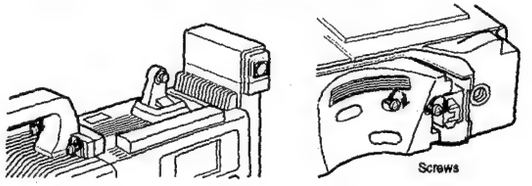


(continued)

4 Tighten the two screws in the grip connector and the two screws in the should pad section.

Note

Slide the shoulder pad to its central position before tightening the screws. Otherwise the screws may not be properly fixed.



To remove the VTR
Reverse the fitting procedure.

To fit a camera adaptor
Follow the same procedure as when fitting a VTR.

Using the Camcorder Grip

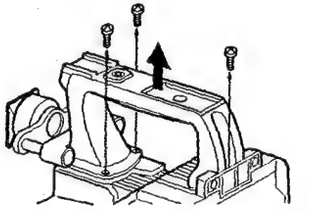
When using the camera head with a VTR as a camcorder, you can replace the camera head's grip with a camcorder grip (not supplied). The type of camcorder grip and the method for attaching it differ slightly depending on the type of VTR.

Attaching a camcorder grip to the DSR-1/1P.

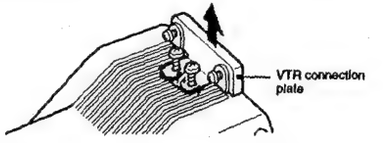
1 If the viewfinder is attached, adjust the viewfinder to the full-forward position.

For details, see "Adjusting the viewfinder position" on page 28.

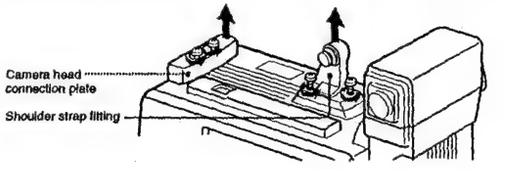
2 Remove the camera head grip's three screws, then pull up the grip to remove it.



3 Remove the VTR connection plate.



4 Remove the DSR-1/1P's shoulder strap fitting and the camera head connection plate.

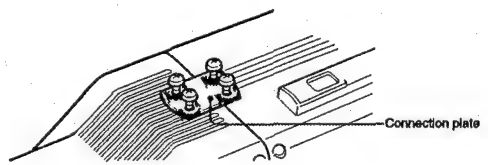


(continued)

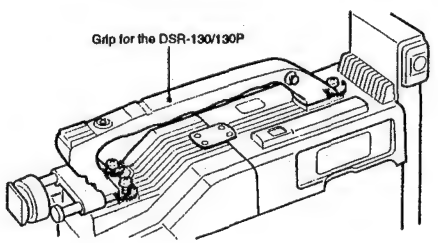
Fitting a VTR

5 Perform the first three steps in "Fitting a VTR".

6 Screw the connection plate (supplied with the grip for the DSR-130/130P) which straddles the connection between the camera head and the DSR-1/1P.



7 Screw the grip for the DSR-130/130P.



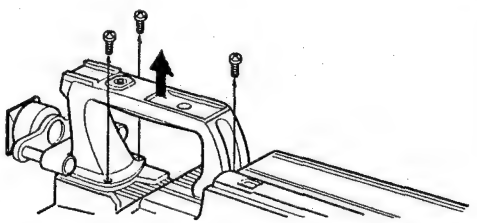
Attaching a camcorder grip to the PVV-3/3P.

1 Perform steps **2** and **3** in "Fitting a VTR".

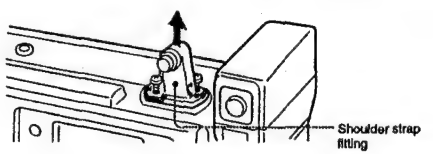
2 If the viewfinder is attached, adjust the viewfinder to the full-forward position.

For details, see "Adjusting the viewfinder position" on page 28.

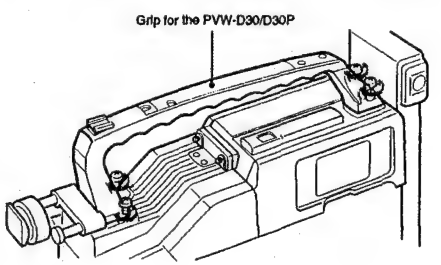
3 Remove the grip's three screws, then pull up the grip to remove it.



4 Remove the PVV-3/3P's shoulder strap fitting.



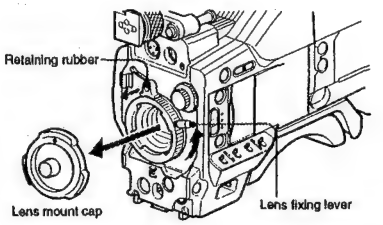
5 Screw the grip for the PVW-D30/D30P.



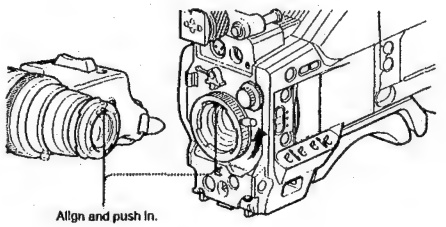
Fitting the Lens

In the case of the DXC-D30F/D30PF/D30K/D30PK model, the lens is already fitted. In other cases, use the following procedure to fit the lens.

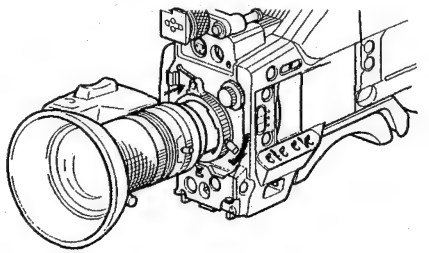
1 Remove the retaining rubber which prevents the lens mount from coming loose, then raise the lens fixing lever, and remove the lens mount cap.



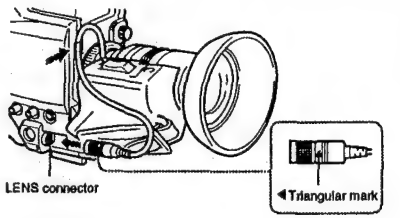
2 With the lens fixing lever turned fully counterclockwise, push in the lens, aligning the projection on the lens with the cutout on the camera.



3 Supporting the lens, turn the lens fixing lever fully clockwise. Replace the retaining rubber on the lens mount.



4 Using the triangular mark as a guide, push the lens connector into the LENS connector on the camera head, until it clicks into place. Fasten the cable with the clamps.

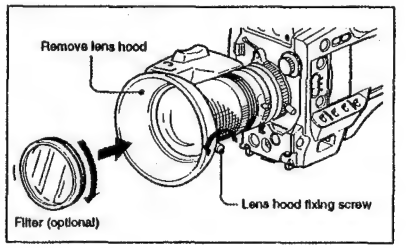


If using a lens with a 6-pin connector

This camera head has a 12-pin LENS connector. If the lens cable has a 6-pin connector, fit an adaptor cable: LO-612 (manufactured by Canon) or ECF-124 (manufactured by Fujinon) or equivalent.

Fitting optional filters

Loosen the lens hood fixing screw to remove the lens hood, then attach the filter.



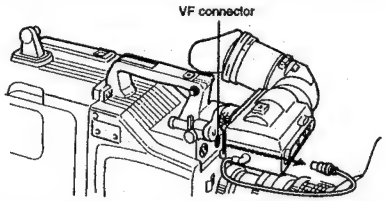
Using Accessories

Using the Viewfinder

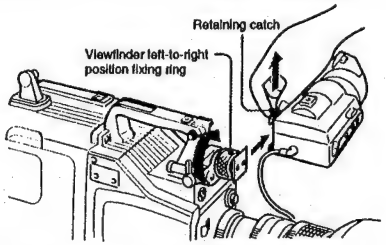
Removing the Viewfinder

Remove any microphone from the viewfinder before beginning.

1 Pull the viewfinder connector out of the VF connector on the font of the camera head.



2 Loosen the viewfinder left-to-right position fixing ring, then pulling up the retaining catch, slide the viewfinder out.

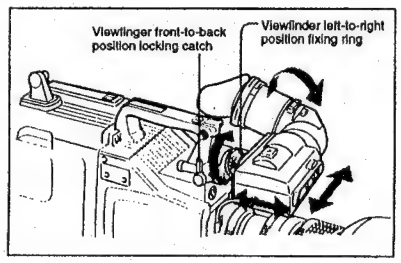


To fit the viewfinder

Reverse the removal procedure.

Adjusting the viewfinder position

To adjust the viewfinder left-to-right position, loosen the left-to-right fixing ring, and to adjust the front-to-back position loosen the front-to-back position locking catch.



Left eye adaptor

By fitting a left eye adaptor, you can use the camera with your left eye to the viewfinder.

Note

You cannot stow the camera attached with a left eye adaptor in the LC-421 Carrying Case.

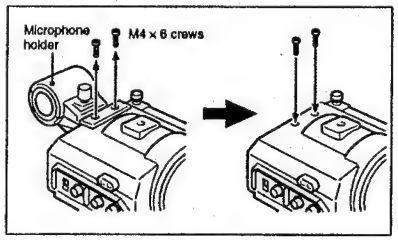
For details, consult your Sony dealer.

Using an Optional Microphone

To use a long microphone such as the optional ECM-670/672, remove the supplied microphone holder, and fit an optional CAC-12 Microphone Holder to the camera, then mount the microphone in this holder.

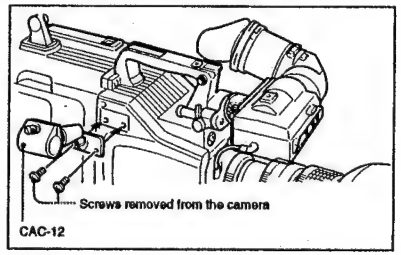
Removing the supplied microphone holder

Remove the two microphone holder retaining screws (M4 × 6) from the viewfinder, remove the microphone holder, then replace the screws in their original positions.



Fitting the optional CAC-12 Microphone Holder

Remove the two retaining screws (M3 × 8) for the optional microphone holder, then use these screws to attach the CAC-12 Microphone Holder.

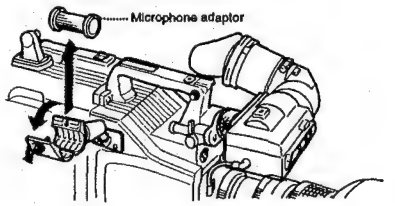


Using Accessories

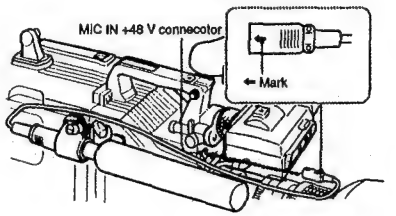
Fitting an optional microphone

Use the following procedure to attach an optional ECM-670 Microphone.

1 Loosen the screw of the CAC-12 Microphone Holder, then open the holder and replace the microphone adaptor with the one supplied with the ECM-670 Microphone.



2 Insert the microphone in the microphone holder, close the holder, and tighten the screw. Connect the microphone cable to the MIC IN +48 V connector.



Fitting optional microphones (operable with a 48 V supply) other than the ECM-670

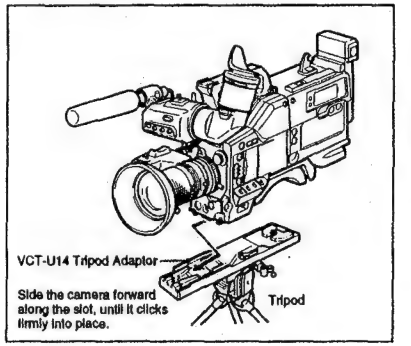
Use the same fitting procedure as for the ECM-670, but note the following differences with respect to the microphone adaptor.

ECM-672: no microphone adaptor required.

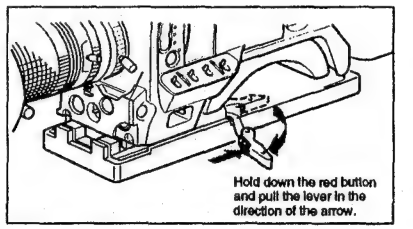
Slender microphones (19 mm (3/4 inch) diameter): use the microphone adaptor supplied with the CAC-12.

Fitting to a Tripod

First fit the VCT-U14 Tripod Adaptor to the tripod, then mount the camera on the tripod adaptor.

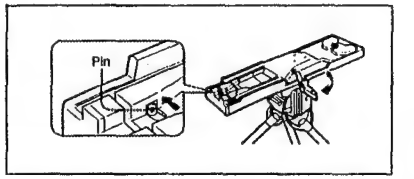


Removal



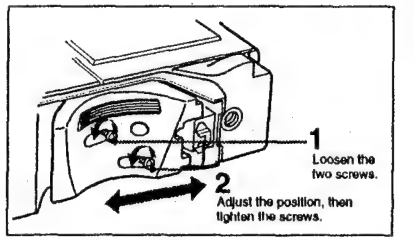
Note

After removing the camera, if the tripod adaptor pin has not returned to its original position, hold down the red button and move the lever in the direction of the arrow to return the pin to its original position. It is not possible to mount a camera with the pin left out.



Adjusting the Shoulder Pad Position

You can slide the shoulder pad toward the front or back by up to 10 mm from its central position (as when shipped). Adjust it to get the best balance when using the camera on your shoulder.



Optional CAC-4 Chest Pad

When using the camera on your shoulder, attaching the optional CAC-4 Chest Pad reduces the load on your right hand supporting the zoom lens, and makes operation easier.

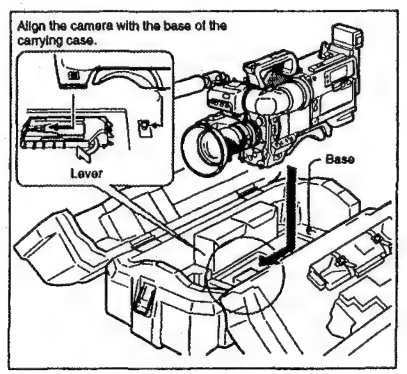
For details see the instructions provided with the CAC-4.

Using Accessories

Using the Carrying Case

Stowing the camera

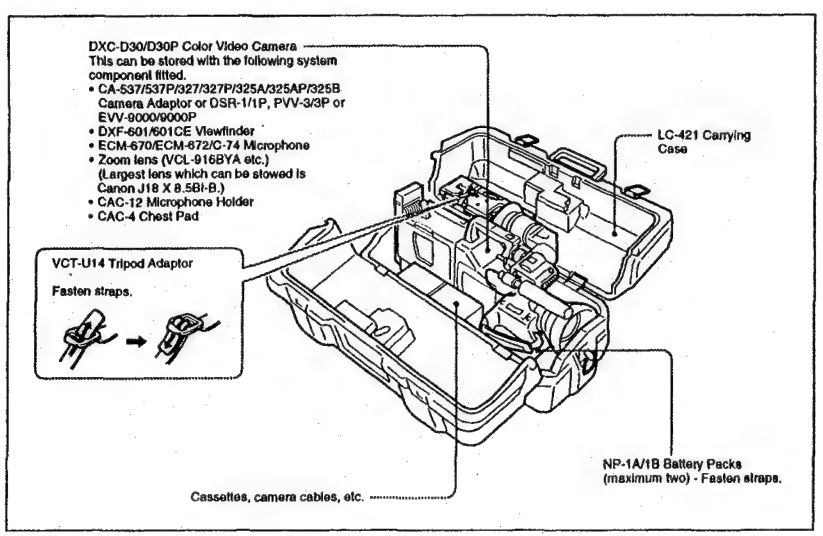
Align the camera with the base of the case, and slide the camera in forward.
Checking that the pin at the rear engages correctly, push forward until it locks into place.



Notes

- Bring the viewfinder into the horizontal position, slide it fully rearward and to the left, then fix before stowing.
- When an optional microphone (ECM-670/672, C-74, etc.) is attached, loosen the microphone fixing screws, move the microphone to the lowest position, and fix before stowing.

Example of fully-stowed carrying case



Connections

Connecting a Portable VTR

Using the optional CA-537/537P or CA-327/327P Camera Adaptor and a camera cable, you can connect a portable VTR. Set the VTR selector switch on the camera adaptor according to the VTR connected.

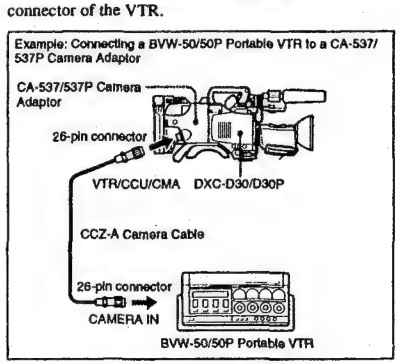
If using a VTR from another manufacturer, consult your Sony dealer.

Checks before making connections

Check first that the video camera, camera adaptor, VTR, and other devices are all powered off.

Making connections

Using a camera cable, connect the VTR/CCU/CMA connector on the camera adaptor to the camera input connector of the VTR.



Camera cable

- Select a camera cable to fit the camera input connector on the VTR you are using.
- The maximum camera cable extent is 10 m (33 ft).

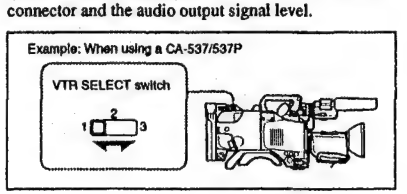
For details, consult your Sony dealer.

Video monitor

- If using an S-VHS VTR, using a video monitor with an S-video input connector and connecting it to the S-video connector of the VTR will allow you to monitor a clear picture, with no flecking.
- The output video signal from the VIDEO OUT connector of this unit is a composite video signal. Connect the VIDEO OUT connector of this unit to a composite video signal input connector of the monitor.

Setting the VTR selector switch on the camera adaptor

When using the camera with a CA-537/537P/327/327P Camera Adaptor, it is essential to correctly set the VTR selector switch on the camera adaptor according to the VTR connected. This switch determines the type of video signal output from the VTR/CCU/CMA connector and the audio output signal level.



VTR selector settings on the CA-537/537P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Sony broadcast and professional VTRs: BVU-150/150P, VO-6800/6800PS[a], BVW-50/50P and BVV-5/5PS[b]	1	Composite (BVU-150/150P and VO-6800/6800PS) or component (BVW-50/50P and BVV-5/5PS)	–60 dB
Sony professional VTRs: VO-8800/8800P and EVV-9000/9000P	3	Y/C	–60 dB
Panasonic AG-6400 VHS VTR	2	Composite	–20 dB
Panasonic AG-7400 S-VHS VTR[c] and JVC BR-S405 S-VHS VTR	3	Y/C	–20 dB

a) Set the audio input level on the VO-6800/6800PS to –60 dB.
b) When the BVV-5/5PS is used as a portable VTR, a VA-5/5P VTR Composite/Component Adaptor is required.
c) Set the input selector switch on the AG-7400 to Y/C.

VTR selector settings on the CA-327/327P

Connected VTR	VTR selector switch setting	Video output signal	Audio output signal level
Sony broadcast and professional VTRs: BVU-150/150P and VO-6800/6800PS[a]	1	Composite	–60 dB
Sony professional VTRs: VO-8800/8800P and EVV-9000/9000P	2	Y/C	–60 dB
Panasonic AG-6400 VHS VTR	3	Composite	–20 dB
Panasonic AG-7400 S-VHS VTR[b]	4	Y/C	–20 dB

a) Set the audio input level on the VO-6800/6800PS to –60 dB.
b) Set the input selector switch on the AG-7400 to Y/C.

Connecting a Number of Cameras (Using a Camera Control Unit)

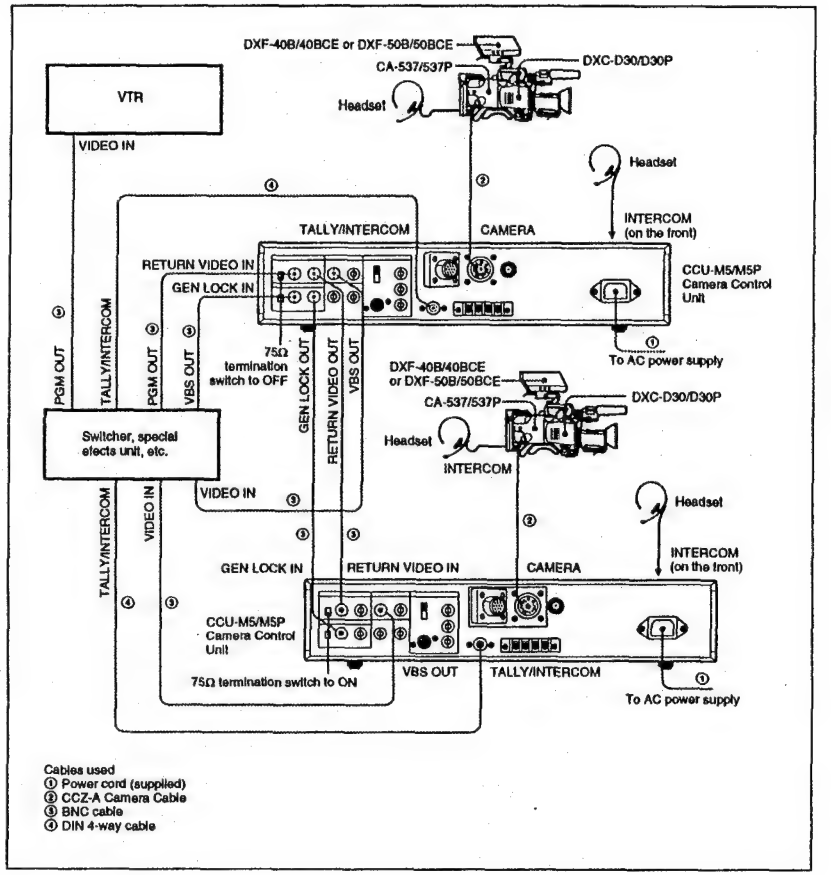
When using a number of cameras in the studio, it may be necessary to use a CCU-M5/M5P/M7/M7P Camera Control Unit to provide video and color sync between cameras, and special effects and other devices to allow switching, wipes and so forth.
In the studio it may also be convenient to use a DXF-40B/40BCE/50B/50BCE Viewfinder.

The figure in the next page shows an example studio configuration.

For details, consult your Sony dealer.

Note

With the DXC-D30/D30P, color matrix switching on the CCU-M5/M5P is invalid.

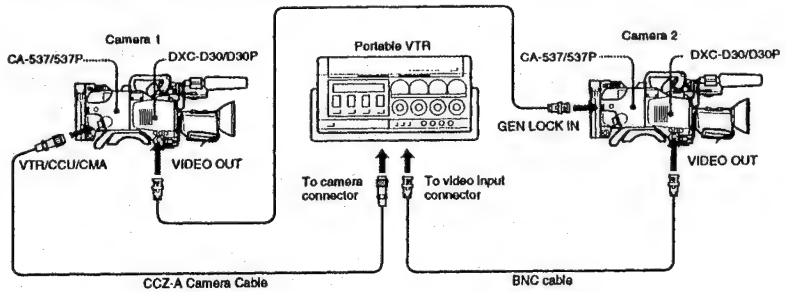


Connections

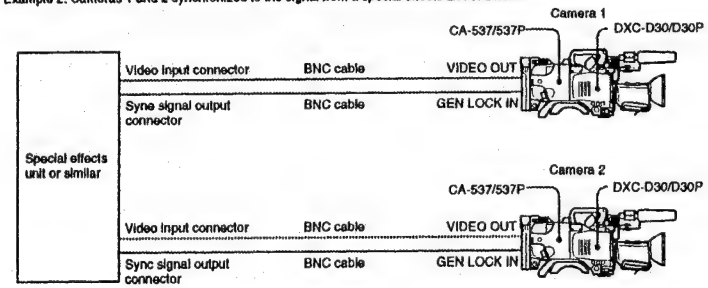
Connecting a Number of Cameras (Without Using a Camera Control Unit)

When using two or more synchronized cameras without a camera control unit, connect an external sync signal to the GEN LOCK IN connector on the camera adaptor (CA-537/537P etc.), supplying a VBS or BS signal. The camera will then operate synchronized to this signal.
You can adjust the synchronization using the basic menus. *(See page 53.)*

Example 1: Camera 2 synchronized to the signal from camera 1



Example 2: Cameras 1 and 2 synchronized to the signal from a special effects unit or similar



Power Supply

This unit operates on either a battery pack or an AC supply (using the optional CMA-8A/8ACE Camera Adaptor).

For details of the power supplies which can be used, refer to the documentation supplied with the VTR connected to this unit or the camera adaptor.

Using an Anton Bauer Intelligent Battery System and Ultralight System

Fitting the special battery mount made by Anton Bauer Corporation to this unit allows you to use their Intelligent Battery System and Ultralight System.

For details, consult your Anton Bauer products supplier or Sony dealer.

Using Battery Packs

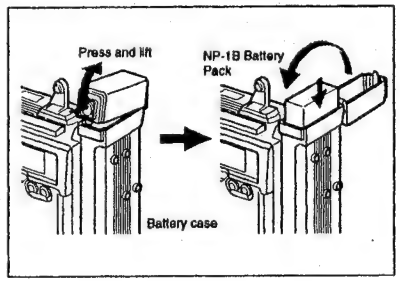
Always fully charge a battery pack before using it.

Notes

- Be careful that other metal objects do not come in contact with the metal parts of the battery pack, as this could cause a short.
- Do not leave the battery pack in the camera if it is not going to be used for a long time.
- If the battery pack is recharged after use while still hot, it may not be possible to obtain a full charge.

Fitting a battery pack (NP-1B)

Open the lid of the battery case, insert a fully-charged battery pack, and close the lid.



Battery pack operating times

The following table shows approximate continuous operating times, when operating the camera and 1.5-inch viewfinder at normal temperatures, with a camera adaptor and an DSR-1/1P or PVV-3/3P connected.

Approximate operating times with a fully-charged battery pack

Battery pack	With camera adaptor	With DSR-1/1P	With PVV-3/3P
NP-1B	110 minutes	75 minutes	60 minutes
NP-1A	85 minutes	55 minutes	50 minutes
BP-90A[a)]	—	150 minutes	140 minutes

a) Requires the special-purpose DC-500 Battery Case. Cannot be used with a camera adaptor.

Battery low indications

When the voltage of the supply to the camera head lowers to or below 11.0 V, the battery voltage indication appears in the viewfinder. At this time, the BATT indicator in the viewfinder flashes when operating with the DSR-1/1P or PVV-3/3P.
If you continue using the camera head, the BATT indicator lights up.
When the battery pack is low, replace it with a fully-charged battery pack.

Battery pack charging

Before using a battery pack, charge it as shown in the following table.

Battery pack	Battery charger	Approximate charging time (normal temperature)
NP-1A	BC-1WD/1WDCE, BC-410/410CE	70 minutes
NP-1B	BC-1WD/1WDCE, BC-410/410CE	95 minutes
BP-90A	BC-410/410CE	160 minutes

For details of battery charger operation, refer to the instructions provided with the battery charger to be used.

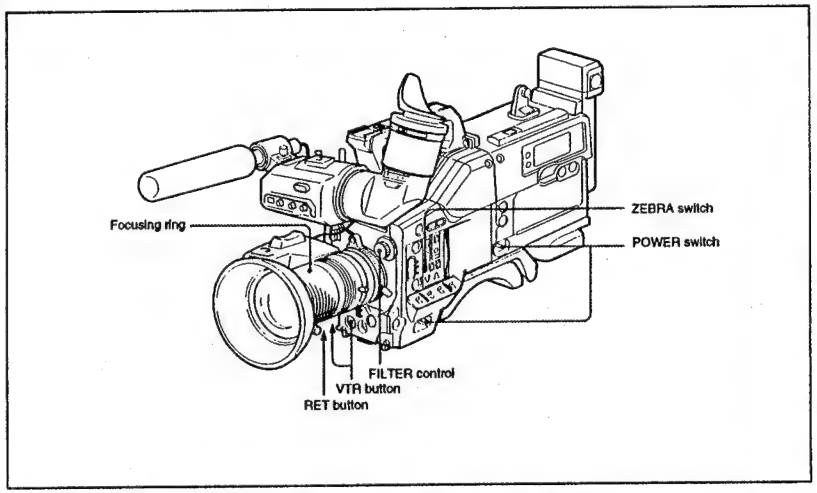
Camera Adaptor Power Supply

The camera adaptor automatically operates on power supplied to the VTR/CCU/CMA connector from the portable VTR, CCU-M7/M7P Camera Control Unit, CMA-8A/8ACE Camera Adaptor or other connected device.

Note

Before use, check that the device connected to the VTR/CCU/CMA connector is able to provide the power required by the camera.
If it is not able to provide the necessary power, or when it is necessary to prolong the operating time, use the camera with a separate power supply.

Basic Procedure for Shooting



1 Attach the VTR or camera adaptor to the camera head, then turn each device's power on.

2 Set the FILTER control appropriately for the lighting conditions.

Filter setting	Lighting conditions
1 (3200K)	Studio halogen lighting (incandescent), sunrise and sunset.
2 (5600K + 1/8 ND)	Sunlight. This setting includes a 1/8 neutral density filter (reducing the exposure by the equivalent of three stops). Use it to prevent hunting[1] or to reduce the depth of field[2].
3 (5600K)	Cloudy or rainy outdoor shooting, and fluorescent lighting.
4 (5600K + 1/64ND)	Sunlight. This setting includes a 1/64 neutral density filter (reducing the exposure by the equivalent of six stops). Use it to prevent hunting[1] or to reduce the depth of field[2].

3 Check the switch settings on the camera head. *(See pages 11 to 15.)*
If there is not sufficient time to check the camera settings, you can use "easy mode" by setting the EZ MODE switch to the ON position. The camera is automatically adjusted to standard settings, and the iris and the white balance are adjusted automatically. *(See page 61.)*

4 Check the settings in the basic menu *(page 51)* and advanced menu *(page 57)*.

5 Check the lens settings *(pages 26 and 27)* and flange focal length adjustment *(page 80)*.

6 Adjust the eyepiece focus, and the contrast and brightness of the viewfinder image *(page 79)*.

7 Check the sound system settings.
- Microphone connections
- Settings on the VTR (refer to the VTR instructions)

(continued)

1) **Hunting:** This occurs if the automatic iris function is not able to reach a stable state, and as a result the image brightness keeps changing, alternately lighter and darker.

2) **Depth of field:** This is the range over which the subject is sharply in focus.

Basic Procedure for Shooting

8 If required, switch on the center marker and/or safety zone (basic menu page 6 and advanced menu page 4) and zebra pattern (ZEBRA switch) in the viewfinder image.

9 Adjust the white balance *(page 71)* and black balance *(page 74)*.

10 Turn the focusing ring so that the subject is sharply in focus. It may be convenient to use the EZ FOCUS button for the "easy focus" function *(see page 12)*.

11 Set up the VTR according to your shooting objectives, then start recording.

If a camera control unit is not connected: Press the VTR button on the camera head or on the lens.

If a camera control unit is connected: Press the VTR's record button to begin recording.

For details of VTR setup and operations, see your VTR's operating instructions.

- During recording, the REC/TALLY indicator(s) in the viewfinder light(s), and "REC" appears on the viewfinder screen.
- Depending on the setting of the REC TIME switch *(See page 13)*, you can display the total recording time or the length of the camera cut on the viewfinder screen.

When recording on the DSR-1/1P, you can use the AUDIO LEVEL knob on the front of the camera head to manually adjust the channel 1 audio level. To do this, you must first set up the DSR-1/1P to enable manual adjustment of the audio recording level.

For details of this operation, see the operating instructions for the DSR-1/1P.

12 To pause recording, press the VTR button again.

Reviewing the recording

It is possible to review the last few seconds of the recording on the tape.
Press the VTR button to pause recording, then press the RET button on the lens.
This automatically rewinds a few seconds from the paused position, then plays back this section in the viewfinder. The VTR then returns to the paused state.

Note

This function may not be provided by some VTRs. Refer to the instructions for the VTR.

Shooting with the DSR-1/1P

The DXC-D30/D30P docks with the DSR-1/1P to configure the DSR-130/130P DVCAM Digital Camcorder.
The following describes how to shoot using the DSR-130/130P's functions.

Using the ClipLink Function

The ClipLink function can be used at all stages from shooting to editing. This function makes editing operations more efficient by automatically recording index pictures (Mark IN point images) that provide a searchable index of recorded scenes, along with other data such as time code and scene numbers.

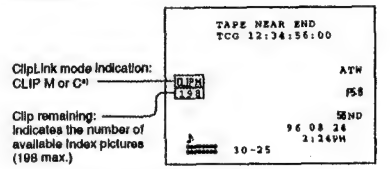
For concept of the ClipLink function, see the supplied "ClipLink™ Guide".

1 Dock the DSR-1/1P to the camera head and turn on the power, then perform steps **2** to **10** from "Basic Procedure for Shooting" *(page 39)*.

2 Insert a cassette into the DSR-1/1P and set ClipLink mode to ON by menu setting.

For details of this operation, see the operating instructions for the DSR-1/1P.

The following display appears on the viewfinder screen.



a) For details, see "Basic menu page 7" *(page 54)*.

To record the cassette name/number
Access basic menu page 7 to specify a name or number for the inserted cassette.

For details, see "Basic menu page 7" (page 54).

3 Press the VTR button on the camera head or the lens.

The DSR-1/1P starts recording, and the REC/TALLY indicator lights in the viewfinder. Meanwhile, the time code at the recording start point (Rec IN) is recorded (HH:MM:SS) in the DSR-1/1P's internal memory.

4 When a shooting of the scene completes, press the VTR button on the camera head or the lens.

This pauses recording.
To continue recording the next scene, repeat steps **3** and **4**. The scene number will be automatically incremented.

To set/clear NG (No Good)
If you press the NG button before you start shooting the next scene, the previous scene will be designated as "NG" (the "NG" display appears in the viewfinder).
Once NG has been set, you can cancel it by pressing the NG button again before you start shooting the next scene (the "NG" display in the viewfinder disappears).

5 To finish recording, press the STOP button on the DSR-1/1P.

This stops recording.

Note

When using the ClipLink function while shooting, if you continue shooting after stopping or if you change the tape's recording position, your subsequent shots may overwrite and erase the previously recorded ClipLink log data (time codes, scene number, etc.) or index pictures.
To avoid this problem, press the DSR-1/1P's ClipLink CONTINUE button before restart of shooting.

For details, see the operating instructions for the DSR-1/1P.

Setting Mark IN/OUT points as you shoot

Instead of continuing shots from scene to scene, you can specify Mark IN and Mark OUT points as you shoot and set scene numbers (ranging from 001 to 198).

1 Perform steps **1** and **2** from "Using the ClipLink Function" *(page 41)*.

2 Access basic menu page 7 and perform the following operations.
1) Set MARK/CUE to MARK.
The ClipLink mode indication "CLIP M" appears on the viewfinder screen.

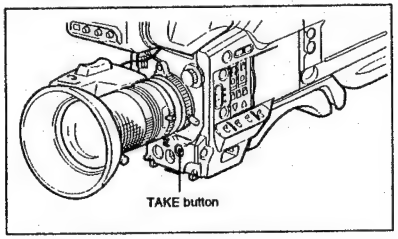
2) Set the cassette name or number if necessary.

For details of menu operations, see "Basic Menu Operations" (page 51).

3 Press the VTR button on the camera head or the lens.

The DSR-1/1P starts recording, and the REC/TALLY indicator(s) light(s) in the viewfinder.

4 Press the TAKE button when you find a shot where you would like to set a Mark IN point.



The TAKE/TALLY indicator (orange) lights in the viewfinder and "TAKE" appears on the screen.

5 Press the TAKE button when you find a shot where you would like to set a Mark OUT point.

The TAKE/TALLY indicator (orange) goes out in the viewfinder and the "TAKE" disappears from the screen.
At this time, the time code (HH:MM:SS) at the Mark IN/OUT point for scene 001 is recorded to the DSR-1/1P's internal memory, and then recorded to the cassette menory.

To set/clear NG
If you press the NG button before you set the next Mark IN point, the previous scene will be designated as "NG" (the "NG" display appears in the viewfinder).
Once NG has been set, you can cancel it by pressing the NG button again before you set the next Mark IN point (the "NG" display in the viewfinder disappears).

6 Repeat steps **4** and **5** as needed to record (to cassette memory) time codes at Mark IN/OUT points, scene numbers, and NG designations to the cassette memory.

The scene number is automatically incremented each time you specify a Mark OUT point.

7 To finish shooting, press the VTR button on the camera head or the lens, then press the DSR-1/1P's STOP button.

This stops the recording operation.
The index pictures of each Mark IN point are recorded onto the tape.

Setting Cue points as you shoot

You can make edit search operations easier by specifying cue points to highlight scenes.

1 Perform steps **1** and **2** in "Using the ClipLink Function" *(page 41)*.

2 Access basic menu page 7 and perform the following operations.
1) Set MARK/CUE to CUE.
The ClipLink mode indication "CLIP C" appears on the viewfinder screen.

2) Set the cassette name or number if necessary.

For details of menu operations, see "Basic Menu Operations" (page 51).

3 Press the VTR button on the camera head or the lens.

The DSR-1/1P starts recording, and the REC/TALLY indicator lights in the viewfinder. Meanwhile, the recording start point (Rec IN) is recorded in the DSR-1/1P's internal memory.

4 Press the TAKE button when you find a shot where you would like to set a cue point.

The "CUE" indication appears (for about three seconds) on the viewfinder screen. At this point, the time code (HH:MM:SS:frame) at the cue point is recorded into the cassette memory.

5 Repeat step **4** to specify more cue points.

6 To finish shooting, press the VTR button on the camera head or the lens, then press the DSR-1/1P's STOP button.

This stops recording operation.
Time codes (HH:MM:SS) and scene number (scene 001) are recorded to the cassette memory and the index picture of the Rec IN point is recorded onto the tape.

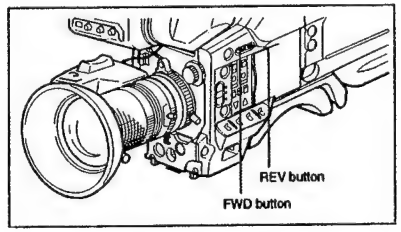
Using the Edit Search Function While Back Space Editing

While the VTR is in recording pause mode, press and hold the EDIT SEARCH buttons to activate the search playback function for as long as you hold down the button. You can use the edit search function to find the desired tape location after a recording stop during back space editing or when continuing to record from any other location on the tape.

1 Dock the DSR-1/1P to the camera head and turn on the power, then insert a cassette into the DSR-1/1P.

2 Perform steps **2** to **12** in "Basic Procedure for Shooting" *(page 39)*.

3 Press and hold either of the EDIT SEARCH buttons (REV or FWD)



The tape is moved in reverse or forward search mode for as long as you hold down the REV or FWD button, and the image is shown in the viewfinder.

To change the playback speed
Press the REV or FWD button down firmly into the inner position to make the tape move at the faster speed. Press the button down lightly to make the tape move at the slower speed.

Note
Do not shut off the camera head's power while using the edit search function. The DSR-1/1P may not be able to find the continue point.

(continued)

4 Release the REV or FWD button when you find the tape location where you wish to continue shooting.

The DSR-1/1P enters recording pause mode.

5 Press the VTR button on the camera head or the lens.

The DSR-1/1P starts recording.

Using the Freeze Mix Function

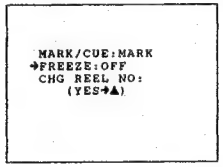
The freeze mix function superimposes a freeze-frame image of a previously recorded shot on the shooting image displayed on the viewfinder screen.
You can use this function to easily frame a subject within the same framework from a previous shot.

1 Dock the DSR-1/1P to the camera head and connect a color monitor to the MONITOR OUT connector.

2 Perform steps **2** to **10** from "Basic Procedure for Shooting" *(page 39)*.

3 Access basic menu page 7 and move the cursor to FREEZE.

For details of menu operations, see "Basic Menu Operations" (page 51).



4 Play back the tape on which the image to be used for framework alignment has been recorded.

For details of the playback operation, see the operating instructions for the DSR-1/1P.

A color playback image is displayed on the color monitor's screen.

5 Press the UP/ON button when you see the image you want to freeze.

The frozen playback image is displayed, mixed with the shooting image, in monochrome. The indication "FREEZE MIX ON" appears on the screen.

To change the freeze-frame image
Press the DSR-1/1P's PLAY button.
This returns to the screen shown in step **3** above, and color playback mode begins.

Use the DSR-1/1P's tape transport buttons to find the desired image and then perform step **5** again.

6 Once you have framed your subject, press the UP/ON button to cancel the freeze function.

This returns to the screen shown in step **3**.

7 Find the recording start point or insert a new cassette for recording, then begin recording.

Note

If you use the DSR-1/1P's tape transport buttons during back space editing, the back space editing mode will be stopped. When you were using the ClipLink function when shooting, If you simply restart the recording you will lose any ClipLink data that was recorded. To avoid this, press the DSR-1/1P's ClipLink CONTINUE button before restarting recording.

For details, see the operating instructions for the DSR-1/1P.

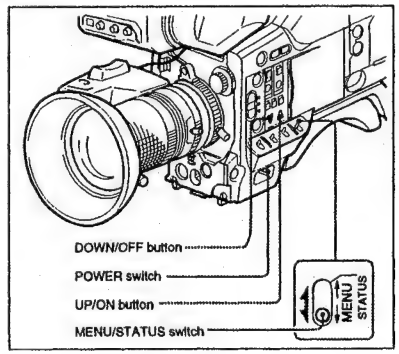
Viewfinder Screen Indications

There are three types of indication screen which appear in the viewfinder, as follows.

- **Normal indications**
  These show the operating state of the camera and connected VTR. *(See page 47.)*
- **Status indications**
  Pressing the MENU/STATUS switch up while the normal indications are present calls a display of current settings. *(See page 50.)*
- **Basic menu**
  These provide settings for the lens iris, shutter speed and so forth, and also a titling screen. *(See the section "Viewfinder Basic Menu" page 51.)*
- **Advanced menu**
  These provide settings for the center marker, zebra pattern, viewfinder screen indications, and so forth. *(See the section "Viewfinder Advanced Menu" page 57.)*

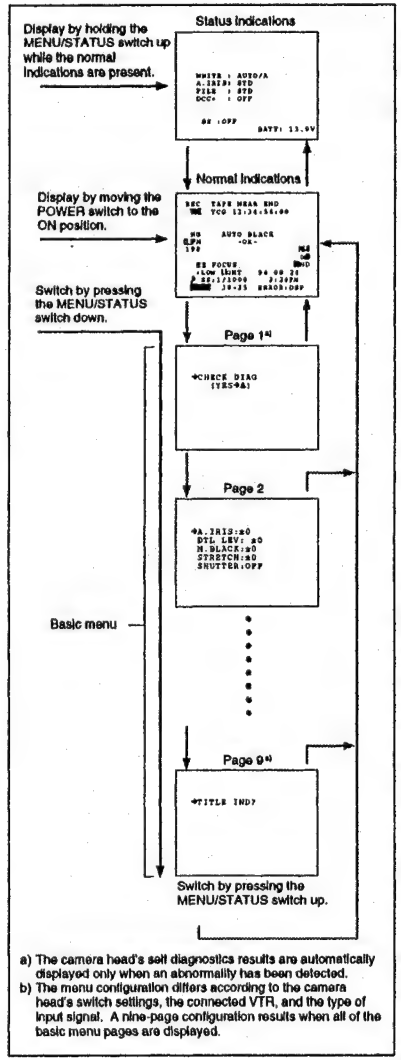
Changing the Viewfinder Display

Use the buttons and switches shown in the following figure to switch the viewfinder display among the normal indications, basic menu pages and advanced menu pages.



Displaying the normal indications and switching to the basic menu

To display the normal indications, move the POWER switch to the ON position.
To switch to and from the basic menu, use the MEMU/STATUS switch.



a) The camera head's self diagnostics results are automatically displayed only when an abnormality has been detected.
b) The menu configuration differs according to the camera head's switch settings, the connected VTR, and the type of input signal. A nine-page configuration results when all of the basic menu pages are displayed.

Displaying the advanced menu and switching to the normal indications

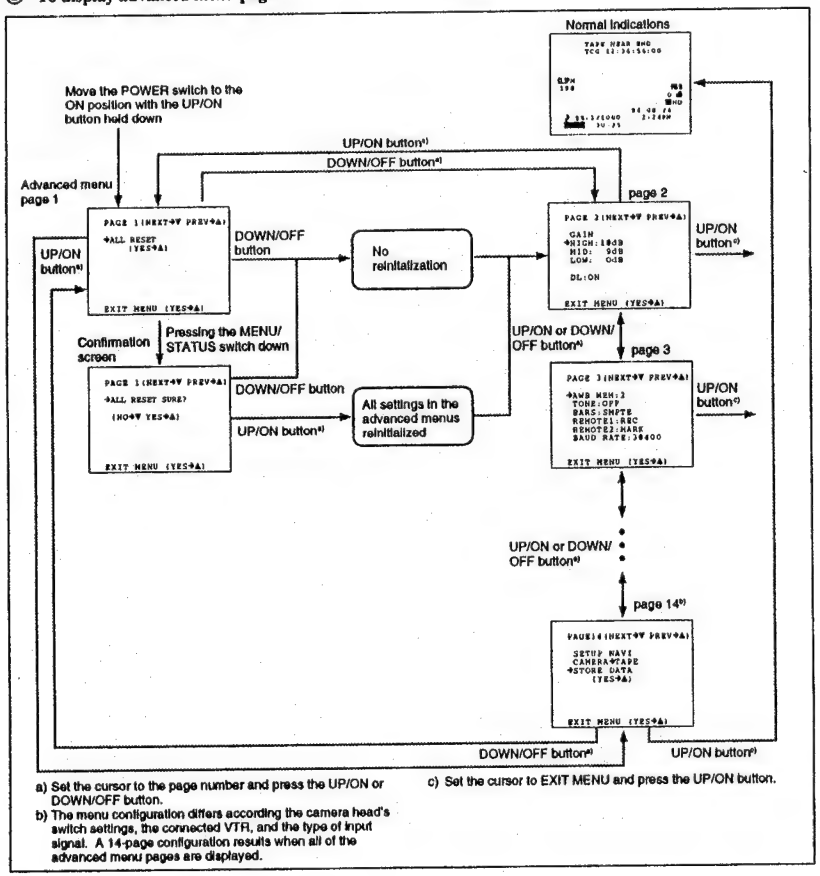
Use the following procedure to display the advanced menu.

① Move the POWER switch to the ON position while holding down the UP/ON button to display the advanced menu selection screen.

② **• To display advanced menu page 2**

immediately, move the cursor to the menu number and then press the DOWN/OFF button.

• To reinitialize all settings in the advanced menu to their factory defaults, press the UP/ON button. A confirmation screen appears. Press the UP/ON button to confirm the reinitialization, or the DOWN/OFF button to cancel it. In either case, the display now switches to advanced menu page 2.



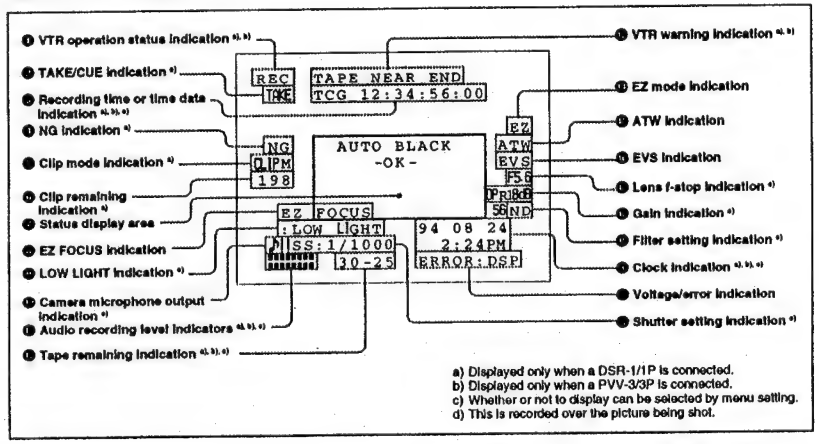
a) Set the cursor to the page number and press the UP/ON or DOWN/OFF button.

b) The menu configuration differs according the camera head's switch settings, the connected VTR, and the type of input signal. A 14-page configuration results when all of the advanced menu pages are displayed.

c) Set the cursor to EXIT MENU and press the UP/ON button.

Viewfinder Normal Indications

During normal operation, the following items can be indicated in the viewfinder.



a) Displayed only when a DSR-1/1P is connected.
b) Displayed only when a PVV-3/3P is connected.
c) Whether or not to display can be selected by menu setting.
d) This is recorded over the picture being shot.

The significance of each of the indications shown in the figure is as follows.

❶ VTR operation status indication

This indicates the VTR's current operation status (REC, PLAY, etc.).

❷ TAKE/CUE indication

This displays a TAKE or CUE indicator when using the ClipLink function and recording with the DSR-1/1P.

TAKE: When recording in Mark mode, this indication appears when a Mark IN point is set and disappears when the next Mark OUT point is set.

CUE: When recording in CUE mode, this indication appears for about three seconds when a cue point is set.

❸ Recording time or time data indication

This shows the following values.

- When the REC TIME switch on the camera is in the TTL position: The total recording time
- When the REC TIME switch on the camera is in the DUR position: The duration of the current recording cut
- With a VTR connected, when the REC TIME switch on the camera head is in the OFF position and the item TC IND in advanced menu page 6 is set to "ON":

  A time data value from the VTR depending on the DISPLAY switch settings on the VTR as shown in the following table

DISPLAY switch setting	Time data displayed
COUNTER	CNT: Tape transpart time
TC	TCG: a time code from the time code generator
U-BIT	UBG: a user bit value from the user bit generator

When using the DSR-1/1P, time data values appear during playback, fast forward, rewind, or recording review.

❹ NG indication

An "NG" (No Good) indicator appears if you designate a recorded scene as "NG" when using the ClipLink function and recording with the DSR-1/1P.

Viewfinder Normal Indications

❺ Clip mode indication
A "CLIP M" or "CLIP C" indication appears when you use the ClipLink function and record using the DSR-1/1P.
CLIP M: Indicates shooting in MARK mode
CLIP C: Indicates shooting in CUE mode

❻ Clip remaining indication
The number of available index pictures remaining is displayed when you use the ClipLink function with the DSR-1/1P.

❼ Status display area
One of the following values or messages is displayed to indicate the camera head's current status or its operation status.
- New values when changing camera head's settings
- Messages indicating progress or results of adjustments
- The camera head's current settings
- SetupLog data recorded to tape during shooting *(see page 69)*

Note
The status indication is not shown while the EZ FOCUS indication ❽ appears.

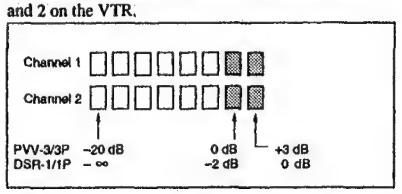
❽ EZ FOCUS indication
This appears when the EZ FOCUS button is pressed, enabling the "easy focus" function.

❾ LOW LIGHT indication
This warning appears if the lighting level is inadequate.

❿ Camera microphone output indication
This appears when there is an input from the camera microphone.

Note
This indication serves as a check on whether the camera microphone is operating correctly, but it does not provide confirmation that the VTR is recording sound. Check that the audio recording levels on the VTR are set correctly.

⓫ Audio recording level indicators
These show the recording levels of audio channels 1 and 2 on the VTR.



⓬ Tape remaining indication
This shows the tape remaining in the VTR as follows.

Indication	Tape remaining
F-30	At least 30 minutes
30-25	25 - 30 minutes
25-20	20 - 25 minutes
20-15	15 - 20 minutes
15-10	10 - 15 minutes
10-5	5 - 10 minutes
5-0	2 - 5 minutes
5-0 (flashing)	0 - 2 minutes

⓭ VTR warning indication
This shows warning indications about operation or status of the connected VTR.

When connecting the DSR-1/1P or PVV-3/3P

Indication	Meaning
NO TAPE	There is no tape loaded.
REC INHIBIT	The tape is in the recording inhibited state.
LOW BATT.	The battery is almost exhausted.
BATT. END	The battery is exhausted.
TAPE NEAR END	The tape is near the end.
TAPE END	The tape is at the end.
CHECK REMOTE (PVV-3/3P only)	A device other than a remote control unit (e.g. headphones) is connected to the REMOTE connector.
SERVO	The servo lock has been lost.
HUMID	There is condensation.
RF	The video heads are clogged, or there is some other fault in the recording system.
SLACK	The tape is not wound properly.
OXIDE TAPE (PVV-3/3P only)	An oxide tape has been loaded. (The tape is automatically ejected.)

Only when connecting the DSR-1/1P

Indication	Meaning
50P CONNECT	Connection with the PRO 50-pin connector on the DSR-1/1P. (Freeze mix function is disabled.)
MP TAPE	An incorrect type of cassette has been loaded. (The cassette is automatically ejected and the indication disappears in about two seconds.)
CLIP DATA ERR	Abnormality of the cassette memory data.
AUDIO 48kHz (4 flashes/s)	At back space editing, audio recording mode has changed from 32 kHz mode (4-channel mode) to 48 kHz mode (2-channel mode).
AUDIO 32kHz (4 flashes/s)	At back space editing, audio recording mode has changed from 48 kHz mode (2-channel mode) to 32 kHz mode (4-channel mode).
ERROR:91-13F	Failure in loading or saving the cassette memory data.
CLIP CONT?	Asking whether you will continue shooting in ClipLink mode or not when the cassette contains ClipLink data. (The indication disappears when you press the ClipLink CONTINUE button on the SR-1/1P or start the next shooting without pressing it.)
CLIP NEAR END	At back space editing in ClipLink mode, capacity for only 1 to 3 index pictures remains.
CLIP END	Impossible to record any more clip shots.

⓮ EZ mode indication
This appears when the EZ MODE switch is in the ON position.
In the "easy mode", the auto tracing white balance function operates, so the ATW indication also appears at the same time.

⓯ ATW indication
This appears when the ATW button is pressed, turning the indicator on. It indicates that the auto tracing white balance function is operating.

⓰ EVS indication
This appears when the EVS (Enhanced Vertical definition System) function is enabled. *(See page 75.)*

⓱ Lens f-stop indication
This shows the f-stop of the lens.

Note
Depending on the lens being used, this indication may differ slightly from the actual f-stop on the lens.

⓲ Gain indication
This shows the gain value, and the settings of the HYPER GAIN switch and the DPR (Dual Pixel Readout) function *(see page 57)* as shown in the following table.

Example indication	Meaning
18dB	Gain setting is 18 dB.
DPR 18dB	The DPR function is enabled. In this case the DPR function approximately doubles the gain (an increase of 6 dB) over the current gain setting (in this case 18 dB).
HYPER	The HYPER GAIN switch is in the ON position. In this case the hyper gain function increases the gain by a factor of about 60 with respect to 0 dB regardless of the current gain setting (that is, increased to 36 dB).

⓳ Filter setting indication
This shows the setting of the FILTER control.

Indication	Filter setting
3200	1 (3200K)
56ND	2 (5600K + 1/8ND)
5600	3 (5600K)
56ND	4 (5600K + 1/64ND)

⓴ Clock indication
The clock indication is shown in one of the following ways (according to the CLOCK IND setting of CAM, BARS, or OFF in the advanced menu page 8).
CAM: Always displayed.
BARS: Displayed whenever color bars are displayed.
OFF: Not displayed.
If the clock indication is displayed during recording, it is recorded onto the image.

Viewfinder Normal Indications

㉑ Voltage/error indication
The current voltage is displayed whenever the camera head's power supply voltage dips below 11.0 V DC. However, you can also display the current voltage at any time by pressing and holding the MENU/STATUS switch in the upward position (the display is shown for as long as you hold the switch upward).
An error message is displayed when an abnormality has been detected by the auto diagnostic function *(page 51)*. If there is a voltage drop below 11.0 V DC and an error has been detected, the low voltage indication alternates at one-second intervals with the error indication.

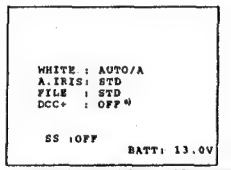
If an error message appears, contact your Sony dealer.

If using a VTR and an Anton Bauer Intelligent Battery System
The remaining battery capacity is shown as a percentage.

㉒ Shutter setting indication
When the SHUTTER switch has been set to ON, the shutter speed or CLS frequency set in basic menu page 2 is displayed here.

Status Indications

If you set the MENU/STATUS switch to STATUS while a menu is being displayed, the camera head's current setting status will be shown in this display area.



a) When both the DCC+ and DynaLatitude functions are set to OFF

Display	Description
WHITE	White balance adjustment method selection (PRE/A/B) and color temperature during auto white balance adjustment
A.IRIS	Iris adjustment method selection (STD/SPOT L/BACK L)
FILE	STD (when not using the setup files), or a selected file name (when using the setup files)
DCC+ or DL	**For DCC+ indication:** ON with the OUTPUT/DL/DCC+ switch set to CAM/DCC+ (DCC+ ON), and OFF with the switch set to CAM/DL and DL in advanced menu page 2 (page 58) set to OFF (both DCC+ and DynaLatitude OFF). **For DL indication:** When setting the OUTPUT/DL/DCC+ switch to DL and DL in advanced menu page 2 to OFF (DynaLatitude OFF), LOW, STD or HIGH is displayed according to DL LVL setting in basic menu page 3 (page 54).

Viewfinder Basic Menu

To display the basic menu pages, press the MENU/STATUS switch downward while the normal indications are being shown in the viewfinder. The basic menu configuration can include up to nine pages (the configuration depends on the switch settings and the type of connected VTR).

Basic Menu Operations

The common operations on all basic menu pages are described below.

To change the page or item

The cursor is moved downward each time you press the MENU/STATUS switch down. Once the cursor has reached the last item on a page, press down the MENU/STATUS switch to go to the next page. When the last page is being displayed, pressing down the MENU/STATUS switch returns the display to the normal indications.
The cursor is moved upward each time you press up the MENU/STATUS switch. Once the cursor has reached the first item on a page, pressing up the MENU/STATUS switch returns the display to the normal indications.

To change settings

After using the MENU/STATUS switch to move the cursor to the item on which you will change the setting, press either the UP/ON button or the DOWN/OFF button to select the desired value.
To reset any item to its shipped settings, press the UP/ON button and the DOWN/OFF button at the same time.

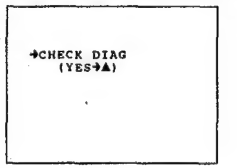
Contents and Settings of Each Page

Each page's contents and settings are described below.

Basic menu page 1

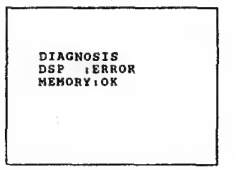
This displays the self diagnostic results when the self diagnostic function has detected an abnormality.

Note
The "CHECK DIAG" indication appears in the status display area whenever the camera head's automatic self diagnostic function detects an abnormality. Be sure to access this page and perform error checking.



To perform error checking
Press the UP/ON button.

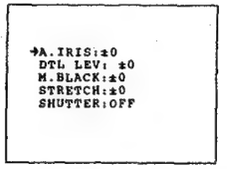
The error checking performs on the digital signal processing (DSP) and memory circuits and the results are displayed.
Example: If an abnormality is detected in the DSP circuit.



This error message "DISP ERROR" appears when the normal indications are displayed. If this message appears, contact your Sony dealer.

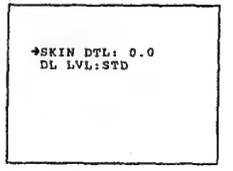
Viewfinder Basic Menu

Basic menu page 2



Item	Settings
A. IRIS Sets a base value for auto adjustment of lens iris.	**–1.0, –0.5, ±0 (normal value), +0.5, +1.0** Negative adjustment values set a narrower lens iris and positive values set a wider lens iris.
DTL LEV Sets the detail (edge) emphasis.	**–99 to ±0 (normal value) to +99** Negative adjustment values soften the image's edges and positive values sharpen them.
M. BLACK Sets the master pedestal level.	**–99 to ±0 (normal value) to +99** Negative adjustment values make dark areas of the picture darker and increase the contrast. Positive adjustment values dark areas of the picture lighter and reduce the contrast.
STRETCH Sets black stretch/ compress value.	**–16 to ±0 (normal value) to +15** This function adjusts the intensity of dark areas of the screen. Negative values make these areas darker (black compress) and positive values make these areas brighter (black stretch).
SHUTTER Sets shutter speed or CLS/EVS setting *(see page 75)*.	**DXC-D30:** 1/100 (normal value), 1/250, 1/500, 1/1000, 1/2000, EVS, CLS (60.4 Hz to 200.3 Hz) **DXC-D30P:** 1/60 (normal value), 1/ 250, 1/500, 1/1000, 1/2000, EVS, CLS (60.3 Hz to 201.4 Hz) This selects either the shutter speed or the scan frequency or EVS for the clear scan function.

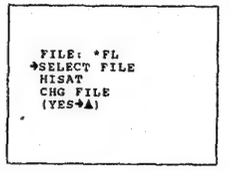
Basic menu page 3



Item	Settings
SKIN DTL Sets the amount of skin detail correction.	**0.0 (normal value) to 1.0** Smaller values set a softer skin detail.
DL LVL Sets the DynaLatitude level.	**LOW, STD (normal value), HIGH** Set the amount of DynaLatitude effects as high level, standard level (STD), or low level.

Basic menu page 4

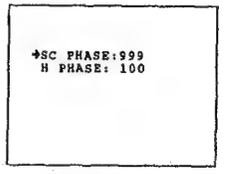
This is displayed when the SET UP switch has been set to FILE.



For details of this operation, see "Setup Files" (page 62).

Basic menu page 5

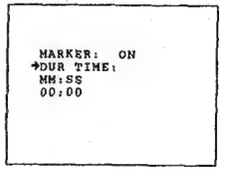
This menu is displayed only when an external sync signal is input to the camera adaptor or VTR connected to the camera head.



Item	Settings
SC PHASE Sub carrier phase adjustment for when camera is genlocked.[a]	**000 (normal value) to 999**
H. PHASE Horizontal phase adjustment for when camera is genlocked.[a]	**000 to 100 (normal value) to 199**

a) This applies when using an external sync signal to synchronize operation of several cameras *(see page 34)*.

Basic menu page 6

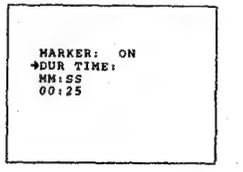


Item	Settings
MARKER Sets MARKER display ON/OFF.	**ON (normal value), OFF** MARKER is displayed when this setting is ON and is not displayed when it is OFF. When the setting is ON, go to Advanced Menu 4 to select the type of marker *(see page 58)*.
DUR TIME Sets the recording time Setting the recording time before shooting helps you with making scenes of equal duration. When shooting with displaying the recording time of the current cut in the viewfinder (with the REC TIME switch set to DUR), the recording time indication flashes to remind you that the recording time has passed.	**00:00 to 59:59 (minute to second)** See "Setting the recording time in seconds" and "Setting the recording time in minutes" below.

Setting the recording time in seconds

Move the cursor to DUR TIME, then press the UP/ON button or DOWN/OFF button.

A value of seconds is displayed under "SS".

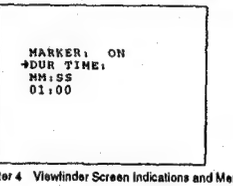


Setting the recording time in minutes

1 Press the MENU/STATUS switch to move the cursor to DUR TIME, then press the UP/ON button until the "seconds" value (under "SS") exceeds 59.

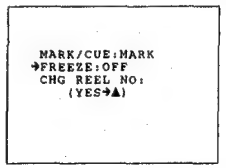
The minute value appears below "MM".

2 Repeat step **1** to set the desired time value.



Basic menu page 7

The following display is shown when the DSR-1/1P is connected.

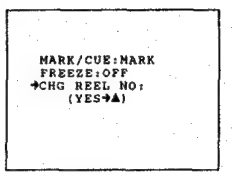


Item	Settings
MARK/CUE Selects MARK mode or CUE mode	**MARK (normal value), CUE** *See "Using the ClipLink Function" (page 41).*
FREEZE Sets the freeze mix function.	*See "Using the Freeze Mix Function" (page 44).*
CHG REEL NO Sets the cassette name/number	*See "To set the cassette name/number" below.*

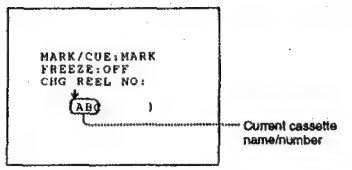
To set the cassette name/number (when using DSR-1/1P)

1 Connect the DSR-1/1P and load a cassette.

2 Press the MENU/STATUS switch to move the cursor to CHG REEL NO, then press the UP/ON button.



The cursor (→) changes to the text entry arrow (↓) and the current cassette name/number is displayed. ("NO TAPE" is displayed if you neglected to load a cassette.)



3 Press the MENU/STATUS switch to move the text entry arrow.

Press the MENU/STATUS switch upward to move the cursor to the right or downward to move it to the left.

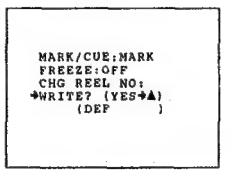
4 Press the UP/ON button or DOWN/OFF button to enter the desired characters.

The displayed character changes each time the UP/ON button is pressed. It changes in reverse order each time the DOWN/OFF button is pressed.

5 Return to step **2** and repeat the text entry procedure.

6 After completing text entry, move the text entry cursor to the parenthesis position.

The display changes as follows.



7 Check your cassette name/number setting, and press the UP/ON button if no more changes are required. (To make changes or to abort the procedure for this setting, press the DOWN/OFF button.)

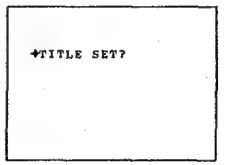
This writes the new cassette name/number to the cassette memory, after which the display changes as follows.

Basic menu pages 8 and 9

You can create a title of up to four lines, each of twelve alphanumeric or punctuation characters, and then save it. It is then possible to record the title over the picture while shooting.

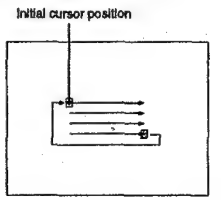
Entering the title (page 8)

1 Press the MENU/STATUS switch as necessary to display basic menu page 8 (title setting display) in the viewfinder.



If a title is already present, it appears on this screen. To delete the displayed title, press the UP/ON and DOWN/OFF buttons simultaneously.

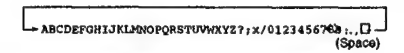
2 Press the UP/ON button.
This brings up the cursor on the screen (flashing), and switches to title editing mode.



3 Press the DOWN/OFF button to move the cursor to the position where you wish to insert a character.

To move the cursor back
With the DOWN/OFF button held down, press the UP/ON button.

4 Press the UP/ON button to select the required character.
Each time you press the UP/ON button, the character cycles through the following sequence.

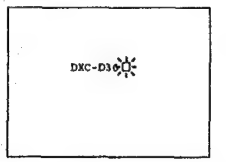


To reverse the character sequence
With the UP/ON button held down, press the DOWN/OFF button.

5 Press the DOWN/OFF button to confirm the character selection.
The cursor advances to the next character position.

To change a character after confirming it
Return to step **3**, and input the character again.

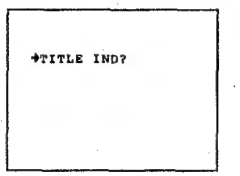
6 Repeat steps **4** and **5** until the title is complete.



7 When the title is complete, press the MENU/STATUS switch as necessary to return to the normal viewfinder indications.
The title created is retained, even when you power the camera off.

To record a title (page 9)

1 Press the MENU/STATUS switch as necessary to access basic menu page 9 (title display).



(continued)

Viewfinder Basic Menu

2 Press the UP/ON button once.

The title is superimposed to the picture displayed on the viewfinder screen.

3 Start shooting.

4 To stop the title recording, press the MENU/STATUS switch to clear the title display.

Note on using the CCU-M5/M5P Camera Control Unit

When the CCU-M5/M5P has a function switch setting of "TITLE ON", the title display takes precedence, and the status display *(see page 48)* do not appear in the normal incidations. However, when you press the MENU/STATUS switch up, for as long as you hold it up the status indications appear in place of the title.

Viewfinder Advanced Menu

Bring up the advanced menu pages by setting the POWER switch to ON while pressing the UP/ON button up *(see page 46)*.
There are up to 14 advanced menu pages (the number displayed depends on the switch settings and the type of connected VTR).

Advanced Menu Operations

To change the page

Move the cursor to the menu number, then press the UP/ON button or the DOWN/OFF button.

Pressing the UP/ON button displays the previous page and pressing the DOWN/OFF button displays the next page. Pressing the DOWN/OFF button when the last page is being displayed returns the display to the first page.

To select items in a page

Press the MENU/STATUS switch to move the cursor among the menu items.

To change settings

This operation is the same as for the basic menus.

For a description of basic menu operations, see page 51.

To return to the normal indications

Move the cursor to EXIT MENU, then press the UP/ON button.

Contents and Settings of Each Page

Each page's contents and settings are described below.

Advanced menu page 1

Use this page to return all advanced menu settings to their factory preset values.

For details of this operation, see "Displaying the advanced menu and switching to the normal indications" (page 46).

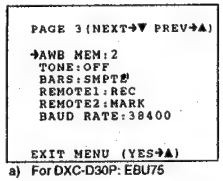
```
PAGE 1(NEXT→▼ PREV→▲)

→ALL RESET
    (YES→▲)




EXIT MENU (YES→▲)
```

Advanced menu page 2

```
PAGE 2(NEXT→▼ PREV→▲)

 GAIN
→HIGH:18dB
 MID:  9dB
 LOW:  0dB

 DL:ON


EXIT MENU (YES→▲)
```

Item	Settings
GAIN This sets gain values for the positions of the GAIN switch. The HIGH, MID, and LOW values must be set so that LOW < MID < HIGH.	
HIGH Sets the H position.	**3 dB, 6 dB, 9 dB, 12 dB, 18 dB (normal value), 18 dB + DPR, 24 dB, 24 dB + DPR, HYPER GAIN**
MID Sets the M position.	**0 dB, 3 dB, 6 dB, 9 dB (normal value), 12 dB, 18 dB, 18 dB + DPR, 24 dB, 24 dB + DPR**
LOW Sets the L position.	**–3 dB, 0 dB (normal value), 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB + DPR, 24 dB**
DL Sets DynaLatitude function ON/OFF. This setting is valid only when the OUTPUT/DL/DCC+ switch has been set to DL.	**ON (normal value), OFF** When set to ON, the amount of DynaLatitude effects is set in basic menu page 3 *(see page 52)*.

Advanced menu page 3

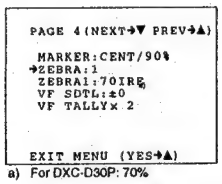


a) For DXC-D30P: EBU75

Item	Settings
AWB MEM Selects whether or not to make the FILTER knob settings (1 to 4) correspond to separate white balance adjustment values stored in memory.	**2 (normal value):** No correspondence with FILTER knob settings. Only two adjustment values (A and B) are stored in memory. **2 × 4FL:** Correspondence with FILTER knob settings. Each of the four knob settings can be used to set A and B adjustment values, for a total of eight settings.
TONE Selects whether or not to output a 1-kHz audio signal with the color bars when the OUTPUT/DL/DCC+ has been set to BARS.	**ON (normal value):** Output audio signal. **OFF:** Do not output audio signal.
BARS Selects normal width or narrower width for color bars.	**SMPTE (normal value for DXC-D30):** Normal width **EBU75 (normal valve for DXC-D30P):** EBU 75% **EBU100 (for DXC-D30P):** EBU 100% **SPLIT (for DXC-D30P):** Not for normal operation **SNG:** Narrower than normal (used for satellite communications, etc.)
REMOTE1 Sets a function for position 1 of a switch connected to the REMOTE1 connector.a)	**REC (normal value):** Specifies recording start/stop **MARK:** Specifies a Mark IN/OUT point. **CUE:** Specifies a cue point. **NG:** Specifies NG/OK.
REMOTE2 Sets a function for position 2 of a switch connected to the REMOTE1 connector.a)	**REC:** Specifies recording start/stop. **MARK (normal value):** Specifies a Mark IN/OUT point. **CUE:** Specifies a cue point **NG:** Specifies NG/OK.
BAUD RATE Sets a baud rate for a computer connected to the REMOTE connector 1 (to be supported in future version).	**9600, 38400 (normal value)**

a) For more information about a connectable switch, contact your Sony dealer.

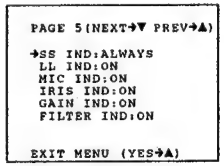
Advanced menu page 4



a) For DXC-D30P: 70%

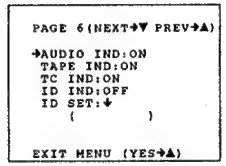
Item	Settings
MARKER Selects ON/OFF setting for center marker, size setting (percentage of viewfinder screen area), and display ON/OFF setting.	**CENT/90% (normal value):** Displays center marker and safety zone marker at 90% size. **CENT/80%:** Displays center marker and safety zone marker at 80% size. **90%:** Displays only safety zone marker at 90% size. **80%:** Displays only safety zone marker at 80% size. **CENT:** Displays only center marker.
ZEBRA Selects type of zebra pattern display.	**1 (normal value):** Displays the zebra pattern over parts having a video level. between 70 and 90 IRE (or 70 and 90%). Use the next item (ZEBRA1) to select the base level. **2:** Displays the zebra pattern over parts having video levels of 100 IRE or above (or 100% or above). **1/2:** Dual display (both 1 and 2)
ZEBRA1 Sets base level for zebra pattern 1.	**70 IRE (normal value) to 90 IRE or 70% (normal value) to 90%** Can be set for each IRE step or 1% step.
VF S DTL Sets the detail level of images on the viewfinder screen (displayed only when the DXF-501/501CE/601/601CE viewfinder is attached).	**–99 to +0 (normal value) to +99** Negative values set softer edges and positive values set sharper edges.
VF TALLY Selects whether or not to use more than one REC/TALLY indicators in the viewfinder (displayed only when the DXF-701/701CE viewfinder is attached).	**×1:** Uses only the upper REC/TALLY indicator. **×2 (normal value):** Uses two REC/TALLY indicators.

Advanced menu page 5



Item	Settings
SS IND Selects the mode for showing the shutter setting when displaying the normal indications.	**3SEC:** Displays shutter setting for three seconds only when the setting has been changed. **ALWAYS (normal value):** Displays the shutter setting at all times.
LL IND Selects whether or not to show the LOW LIGHT indication on the normal indications when inadequate lighting is detected.	**ON (normal value):** Displays. **OFF:** Not display.
MIC IND Selects whether or not to show the camera microphone output indication on the normal indications.	**ON (normal value):** Displays. **OFF:** Not display.
IRIS IND Selects whether or not to show the lens's F-stop value (iris indication) on the normal indications. The F-stop value is always displayed when in EZ mode.	**ON (normal value):** Displays. **OFF:** Not display.
GAIN IND Selects whether or not to always show the gain setting indication on the normal indications.	**ON (normal value):** Always displays. **OFF:** displays for two seconds only when the setting has been changed.
FILTER IND Selects whether or not to always show the FILTER knob setting indication on the normal indications. The FILTER knob setting indicator is always displayed when in EZ mode.	**ON (normal value):** Always displays. **OFF:** Displays for two seconds only when the setting has been changed.

Advanced menu page 6



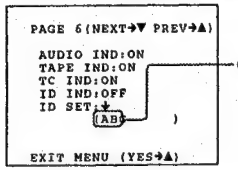
Item	Settings
AUDIO IND Selects whether or not to show the audio level indication on the normal indications (valid only when the DSR-1/1P or PVV-3/3P is connected).	**ON (normal value):** Displays. **OFF:** Not display.
TAPE IND Selects whether or not to show the VTR's remaining tape indication on the normal indications. (valid only when the DSR-1/1P or PVV-3/3P is connected).	**ON (normal value):** Displays. **OFF:** Not display.
TC IND Selects whether or not to show the time data indication on the normal indications (valid only when the DSR-1/1P or PVV-3/3P is connected).	**ON (normal value):** Displays. **OFF:** Not display.
ID IND Selects whether or not to display the camera ID when displaying color bars.	**ON (normal value):** Displays. **OFF:** Not display.
ID SET Sets the camera ID (up to eight characters, including alphanumerics, symbols, and spaces).	*See "To set the camera ID" on next page.*

Viewfinder Advanced Menu

To set the camera ID

1 Press the MENU/STATUS switch to move the cursor to ID SET.

The cursor (→) changes to the text entry arrow (↓).



2 Press the MENU/STATUS switch to move the text entry arrow.

Press the MENU/STATUS switch upward to move the cursor to the right or downward to move it to the left.

3 Press the UP/ON button or DOWN/OFF button to enter the desired characters.

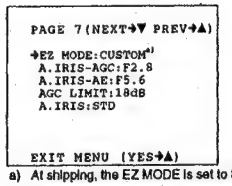
The displayed character changes each time the UP/ON button is pressed. It changes in reverse order each time the DOWN/OFF button is pressed.

4 Return to step **2** and repeat the text entry procedure.

5 When you have finished entering the text, move the cursor to the parenthesis position.

This clears the displayed menu and returns to the normal indications.

Advanced menu page 7



a) At shipping, the EZ MODE is set to STD.

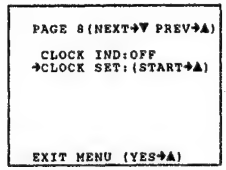
Item	Settings
EZ MODE When the EZ MODE switch has been set to ON, this selects whether or not to change the settings of other switches and menus to the standard settings. (The EZ mode function cannot be used during remote operation.)	**STD (normal value):** Changes settings to standard settings. **CUSTOM:** Changes only some settings to standard settings. *For details of the settings when STD or CUSTOM is specified, see "EZ mode settings" below.*
A.IRIS-AGC Selects auto iris adjustment which sets an F-stop value that can be switched to AGC (displayed only when the EZ MODE is set to CUSTOM).	**F1.8, F 2.8 (normal value), F4, F5.6**
A.IRIS-AE Selects auto iris adjustment which sets an F-stop value that can be switched to AE (displayed only when the EZ MODE is set to CUSTOM).	**F5.6 , F8, F11, F16 (normal value)**
AGC LIMIT Sets an upper limit value for AGC adjustment (displayed only when the EZ MODE is set to CUSTOM).	**0 dB, 3 dB, 6 dB, 9 dB, 12 dB (normal value)**
A.IRIS Selects between standard method and intelligent method for auto iris control (displayed only when the EZ MODE is set to CUSTOM).	**STD (normal value):** Standard **AI:** "Intelligent" method: Enables selection of an appropriate adjustment value when shooting a dark subject against a bright background or a bright subject against a dark background.

EZ mode settings

The following settings are set for the camera head when EZ mode has been selected.

Item	Setting	
	STD	**CUSTOM**
Setup file	STD	Selectable
Detail level	±0	Setting of selected file
Master black	±0	Setting of selected file
Black stretch	±0	Setting of selected file
Skin detail	OFF	OFF
Shutter	OFF (AE mode)	Setting of selected file
Freeze mix	OFF	OFF
Gain	AGC mode	AGC mode
Hyper gain	OFF	OFF
Iris control method	Automatic	Automatic
Auto iris control mode	STD	STD
Iris override	±0	±0
Color bar output	Not output	Not output
AGC upper limit	12dB	Setting of selected file
AGC's F stop value	F2.8	Setting of selected file
AE's F stop value	F16	Setting of selected file
ATW	ON	ON
DynaLatitude	OFF	OFF
DCC+	ON	ON
F-stop value indication	ON	ON
Filter indication	ON	ON
Clock indication	OFF	OFF

Advanced menu page 8



Item	Setting
CLOCK INDICATION SELECT Selects whether or not to display the date/time indicator on the normal indications.	**OFF (normal value):** Not display. **CAM:** Displays. **BARS:** Displays only when color bars are displayed.
CLOCK SET Sets date/time.	*See "Setting the Clock and Timestamping Recordings" (page 77).*

Advanced menu pages 9 to 12

These pages are displayed only when the SET UP switch has been set to FILE.

For details of this operation, see "Setup Files" (page 62).

Advanced menu pages 13 and 14

These pages are displayed only when a DSR-1/1P has been connected.

For details of this operation, see "Using SetupNavi and SetupLog with the DSR-1/1P" (page 67).

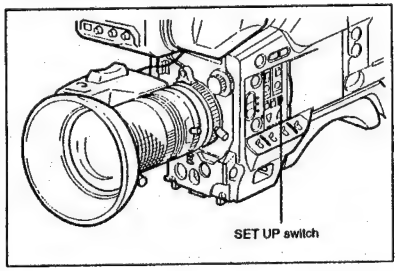
Setup Files

You can use setup files to reproduce a particular configuration of settings. You can also revise the contents of setup files.
There are eight types of setup files, of which five are factory preset setup files and the other three are user files.

Calling up a Setup File

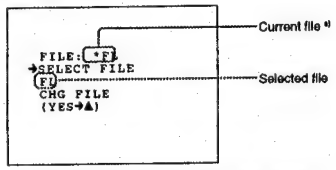
This describes how to call up a setup file and use it to replace the current menu settings.

1 Set the SET UP switch to FILE.



The camera head is set according to the currently-selected file data.

2 Access basic menu page 4.



a) An asterisk (*) appears in front of any factory preset file whose contents have been revised at least once.

3 Move the cursor to SELECT FILE and use the UP/ON button or the DOWN/OFF button to select the desired file.

Press the UP/ON button or DOWN/OFF button repeatedly until the desired file name is displayed.

```
FILE: *FL
→SELECT FILE
 FILMLIKE
 CHG FILE
 (YES→▲)
```

File	Description
STD	Settings for shooting under standard conditions
HI SAT	Settings for making pictures vivid
FL	Settings for shooting under fluorescent lighting
FILMLIKE	Settings for making pictures like ones shot by film camera
SPARKLING	Settings for making pictures gorgeous
USER1 to USER3	User setup files (set to STD at shipping)

4 Move the cursor to CHG FILE and press the UP/ON button.

The display changes as shown below and the selected file is called up.

```
FILE: *FL
SELECT FILE
FILMLIKE
→CHG FILE
 DONE
```

You can also call up these files via a similar operation in advanced menu page 9. In this page, a file recorded onto a tape can also be called up (when using the DSR-1/1P).

For details, see "To call up files recorded onto a tape (when using the DSR-1/1P)" (page 63).

To call up files recorded onto a tape (when using the DSR-1/1P)

First, connect the DSR-1/1P to the camera head and load the cassette that contains the recorded files.

1 Set the SET UP switch to FILE.

2 Access advanced menu page 9.

```
PAGE09(NEXT→▼ PREV→▲)
 FILE RECALL
 FILE:*FL
→SELECT FILE
 FL
 CHG FILE
 (YES→▲)

 EXIT MENU (YES→▲)
```

3 Move the cursor to SELECT FILE and use the UP/ON button or the DOWN/OFF button to select TAPE.

```
PAGE09(NEXT→▼ PREV→▲)
 FILE RECALL
 FILE:*FL
→SELECT FILE
 TAPE
 CHG FILE
 (YES→▲)

 EXIT MENU (YES→▲)
```

4 Move the cursor to CHG FILE and press the UP/ON button.

The screen appears as shown below.

```
PAGE09(NEXT→▼ PREV→▲)
 FILE RECALL
 FILE:*FL
→SELECT FILE
 TAPE
 READY TAPE?
 (YES→▲)

 EXIT MENU (YES→▲)
```

5 Press the UP/ON button to call up the file. To abort the call up operation, press the DOWN/OFF button (the display returns to the one shown in step **3**).

During the call up operation, the following display appears.

```
PAGE09(NEXT→▼ PREV→▲)
 FILE RECALL
 FILE:*FL
 SELECT FILE
 TAPE

 SETUP FILE

 EXIT MENU (YES→▲)
```

When the call up operation ends, the display changes as shown below.

```
PAGE09(NEXT→▼ PREV→▲)
 FILE RECALL
 FILE(ABC)        ← Name of file recorded onto tape
 SELECT FILE
 TAPE
→CHG FILE
 DONE

 EXIT MENU (YES→▲)
```

The settings of the camera head are now replaced by the settings in the called file.

Setup Files

Changing File Settings

When using advanced menu page 10 or 11, you can change the settings about picture quality in setup files. (In basic menu page 2, a part of items are changeable.) The changes are accepted only until another file is called up, after which the original settings are restored. If you save the changes, store the modified file as one of the user files or record it in a cassette. (See the following section "Saving File Settings".)

1 Perform the steps described in "To call up files recorded onto a tape (when using the DSR-1/1P)" above to call up the selected file.

2 Access advanced menu page 10 or 11.

```
PAGE10(NEXT→▼ PREV→▲)

 FILE ADJ 1
 FILE(*FILMLIKE)
→M.BLACK:±0
 STRETCH:±0
 M.GAMMA:±0
 DTL LEV:±0
 V DTL LEV:±0
 DTL FREQ:M
EXIT MENU (YES→▲)
```

Currently selected file a)

```
PAGE11(NEXT→▼ PREV→▲)

 FILE ADJ 2
 FILE(*FILMLIKE)
→SAT:33
 HUE:22
 SKIN SAT:12
 SKIN HUE:15

EXIT MENU (YES→▲)
```

Currently selected file a)

a) An asterisk (*) appears in front of any factory preset file whose contents have been revised at least once.

3 Make the desired changes.

Page 9

Item	Settings
M.BLACK, STRETCH and DTL LEV	*See "Basic menu page 2" (page 52).*
M.GAMMA Adjusts the gamma curve.	**–99 to ±0 (normal value) to +99**
V DTL LEV Adjusts the vertical detail.	**–99 to ±0 (normal value) to +99**
DTL FREQ Adjusts the central frequency of the detail.	**LL, L, M (normal value), H, HH**

Page 10

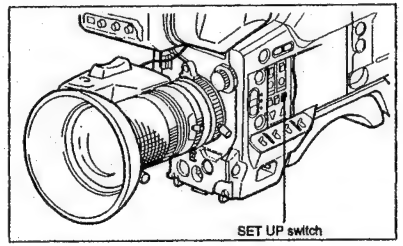
Item	Settings
SAT Adjusts the saturation of the image.	**–99 to ±0 (normal value) to +99** Negative adjustment values decrease the saturation and positive adjustment values increase the saturation.
HUE Adjusts the hue of the image.	**–99 to ±0 (normal value) to +99**
SKIN SAT Adjusts the saturation in the specified area of the image.	**–99 to ±0 (normal value) to +99** Negative adjustment values decrease the saturation and positive adjustment values increase the saturation.
SKIN HUE Adjusts the hue in the specified area of the image.	**–99 to ±0 (normal value) to +99**

Saving File Settings

Files whose settings have been changed for certain shooting conditions can be saved as a user file or onto a tape (when using the DSR-1/1P).

For details, see "To save setup files to a tape (when using the DSR-1/1P)" (page 65).

1 Set the SET UP switch to FILE.



2 Call up a setup file whose settings approximate the desired shooting conditions and then change some of the settings.

For details of this operation, see "Calling up a Setup File" (page 62), "Changing File Settings" (page 64), "Basic Menu Operations" (page 51), and "Advanced Menu Operations" (page 57).

3 Access advanced menu page 12.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE(*FILMLIKE)
→DESTINATION FILE
 USER1
 STORE FILE?
 (YES→▲)

EXIT MENU (YES→▲)
```

Currently selected file a)

a) An asterisk (*) appears in front of any factory preset file whose contents have been revised at least once.

4 Move the cursor to DESTINATION FILE and repeatedly press the UP/ON button or the DOWN/OFF button to select USER1, USER2, or USER3.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
→DESTINATION FILE
(USER2)
 STORE FILE?
 (YES→▲)

EXIT MENU (YES→▲)
```

File in which current settings are to be stored

5 Press the UP/ON button to move the cursor to STORE FILE?.

The display changes as shown below.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
 DESTINATION FILE
 USER2
→STORE FILE?
 (NO→▼ YES→▲)

EXIT MENU (YES→▲)
```

6 Press the UP/ON button to store the file. To abort the save operation, press the DOWN/OFF button (the display returns to the one shown at step **4**).

When the save operation is finished, the display changes as shown below.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
 DESTINATION FILE
 USER2
→STORE FILE?
 DONE

EXIT MENU (YES→▲)
```

To save setup files to a tape (when using the DSR-1/1P)

Connect the DSR-1/1P to the camera head and load the tape onto which the file will be recorded.

1 Perform steps **1** to **4** of "Saving File Settings" and select TAPE as the file saving destination.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
→DESTINATION FILE
 TAPE
 STORE FILE?
 (YES→▲)

EXIT MENU (YES→▲)
```

2 Press the UP/ON button to move the cursor to STORE FILE?.

The display changes as shown below.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
 DESTINATION FILE
 TAPE
→STORE FILE SURE?
 (NO→▼ YES→▲)

EXIT MENU (YES→▲)
```

(continued)

3 Press the UP/ON button to store the file. To abort the save operation, press the DOWN/OFF button (the screen returns to the screen shown in step **2**).

The tape automatically rewinds and recording starts.
The display changes as shown below, which includes color bars. ("CAN NOT WRITE" appears on the screen if no tape is loaded or if the loaded tape is write-protected.)

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
→DESTINATION FILE
 TAPE


EXIT MENU (YES→▲)
```

After the settings are stored, the following display appears.

```
PAGE12(NEXT→▼ PREV→▲)

 FILE STORE
 FILE:*FILMLIKE
 DESTINATION FILE
 TAPE
→STORE FILE?
 DONE

EXIT MENU (YES→▲)
```


Using SetupNavi and SetupLog with the DSR-1/1P

The SetupNavi function records the setup menu and setup files onto a tape, so that the same settings can be called up and used again or copied to another camera. The SetupLog function records a camera settings every few seconds at shooting and displays the recorded data in the viewfinder during playback.

Setting up the camera Using Data Recorded on Tape

The procedure to replace camera's menu settings with settings recorded onto video tape is described here.

1 Connect the DSR-1/1P and insert the cassette onto which the data was recorded. Set the POWER switch to ON while holding down the UP/ON button.

Advanced menu page 1 appears.

```
PAGE 1(NEXT→▼ PREV→▲)

→ALL RESET
   (YES→▲)



EXIT MENU (YES→▲)
```

2 Repeatedly press down on the MENU/STATUS switch until advanced menu 13 appears.

For details of menu operation, see "Advanced Menu Operations" (page 57).

```
PAGE13(NEXT→▼ PREV→▲)

 SETUP NAVI
 TAPE→CAMERA
→RECALL DATA
   (YES→▲)



EXIT MENU (YES→▲)
```

"NO TAPE" is displayed if you neglected to load a cassette.

3 Press the UP/ON button.

The following display appears.

```
PAGE13(NEXT→▼ PREV→▲)

 SETUP NAVI
 TAPE→CAMERA
→SURE TO RECAL?
    (YES→▲)



EXIT MENU (YES→▲)
```

4 Press the UP/ON button to call up the data recorded on the tape. (Press the DOWN/OFF button to cancel).

The display changes as follows and the call up operation begins.

```
PAGE13(NEXT→▼ PREV→▲)

 SETUP NAVI
 TAPE→CAMERA
→CANCEL TO RECAL?
    (YES→▼)

 SETUP NAVI
 MY FILE          ← Name of data being called up

EXIT MENU (YES→▲)
```

To abort the call up operation while in progress
Press the DOWN/OFF button.

After the data has been read, the following display appears.

```
PAGE13(NEXT→▼ PREV→▲)

 SETUP NAVI
 TAPE→CAMERA
→RECALL DATA
 DONE



EXIT MENU (YES→▲)
```

The previous menu settings are overwritten by the data recorded on the tape.

5 Change the menu settings if necessary.

Recording the Menu Settings onto a Tape

1 Connect the DSR-1/1P and load the tape onto which the settings are to be recorded. Turn the camera power on.

2 Make your basic menu settings.

For details of this operation, see "Basic Menu Operations" (page 51).

3 Again, set the POWER switch to ON while holding down the UP/ON button.

4 Make your advanced menu settings.

For details of this operation, see "Advanced Menu Operations" (page 57).

5 Access advanced menu page 14.

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
→STORE DATA
    (YES→▲)



EXIT MENU (YES→▲)
```

"NO TAPE" appears if you neglected to load a cassette.

6 Press the UP/ON button.

The following display appears.

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
→SURE TO STORE?
      (YES→▲)
 NAME SET :
      (YES→▲)
 (        )
EXIT MENU (YES→▲)
```

7 Set the cursor to "NAME SET" and press the UP/ON button to record the menu setting onto the tape. (Press the DOWN/OFF button without changing the cursor position to cancel.)

The cursor (→) changes to the text entry cursor (↓).

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
 SURE TO STORE?
      (YES→▲)
 NAME SET :
   ↓
 (        )
EXIT MENU (YES→▲)
```

8 Enter a name for the data.

Moving the text entry cursor: Press the MENU STATUS switch up to move the cursor to the right, and press the MENU STATUS switch down to move the cursor to the left.

Selecting the character: Press the UP/ON or DOWN/OFF button repeatedly until the desired character appears.

9 After completing text entry, move the cursor to the parenthesis position.

The display changes as follows.

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
 SURE TO STORE?
      (YES→▲)
→NAME SET :
      (YES→▲)
   MY FILE
EXIT MENU (YES→▲)
```

10 Move the cursor to "SURE TO STORE?" and press the UP/ON button to record the menu settings onto the tape (press the DOWN/OFF button to cancel).

The display changes as follows and the data recording begins.

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
→CANCEL TO STORE
      (YES→▼)

 SETUP NAVI
(MY FILE)
EXIT MENU (YES→▲)
```

Name of data being recorded

To abort the data recording while in progress
Press the DOWN/OFF button.

After the data has been recorded, the following display appears.

```
PAGE14 (NEXT→▼ PREV→▲)

 SETUP NAVI
 CAMERA→TAPE
→STORE DATA
 DONE



EXIT MENU (YES→▲)
```

Viewing SetupLog Data

1 Connect the DSR-1/1P and load the tape that contains the recording to be viewed. Turn the camera power on.

2 Play back the tape.

For details of playback operation, see the operating instructions for the DSR-1/1P.

3 Press the MENU/STATUS switch up to the STATUS side.

The display changes to page 1 of the status display.

```
PLAY TAPE NEAR END
    TCG 12:34:56:00

SETUP LOG    1/3        EZ
 WHITE     : A 5600   ATW
 A.IRIS    : SPOT L   EVS
 SETUP FILE: STD        FSS
 DCC+      : OFF    PRIME
 SKIN DTL  : OFF     SEND
             94 08 24
♪ SS:1/1000   2:24PM
  30-25
```

Settings during recording

Each time you press upward the MENU/STATUS switch, the status display cycles through the status pages and playback display in the order: page 2, page 3, the playback display (containing the current settings), and page 1.

Status display (page 2)

```
PLAY TAPE NEAR END
    TCG 12:34:56:00

SETUP LOG    2/3        EZ
 A.IRIS    : ±0       ATW
 A.IRIS    : SPOT L   EVS
 SETUP FILE: STD        FSS
 DCC+      : OFF    PRIME
 SKIN DTL  : OFF     SEND
             94 08 24
♪ SS:1/1000   2:24PM
  30-25
```

Status display (page 3)

```
PLAY TAPE NEAR END
    TCG 12:34:56:00

SETUP LOG    3/3        EZ
 M.GAMMA   : ±0       ATW
 V DTL LEV : +50      EVS
 DTL FREQ  : M          FSS
 SKIN SAT  : ±0     PRIME
 SKIN HUE  : ±0      SEND
 SAT: ±0             94 08 24
 HUE: ±0               2:24PM
  30-25
```

Notes

In the following cases, changed settings that were not recorded may appear as blank settings.

- SetupLog data is overwritten at intervals of a few seconds during recording. If the settings are changed frequently for certain items, it may not always be recorded in time.
- If the recording time is very short, recording may be ended before all of the data has been overwritten.

White Balance Adjustment

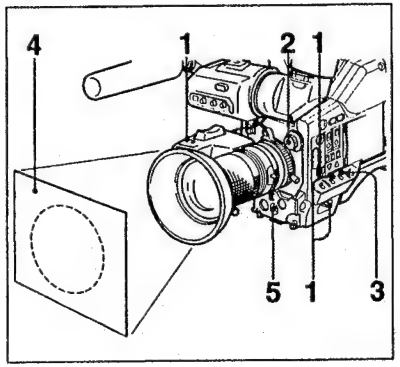
Adjusting the white balance ensures that as lighting conditions change white objects remain white in the image and tones remain natural.
The color of light emitted varies from one light source to another, and as the lighting changes the apparent color of an illuminated subject changes. It is therefore necessary to adjust the white balance each time the principal lighting source changes.

Saving an Appropriate White Balance Value in Memory

You can save two white balance values in separate memories, A and B. Unless changed, the saved values are retained for approximately ten years, even when the camera is powered off.
Once a value is saved, you can automatically restore the adjustment by moving the W. BAL switch to the A or B position. This makes shooting under alternating lighting conditions easy.

Separate white balance values for each FILTER control setting

In the default case, as described above, the same two A and B white balance values apply to all settings of the FILTER control. It is possible, however, to change the AWB MEM menu setting *(see page 58)* so that there are eight possibly different values for each of the A and B positions and for the four FILTER control settings.

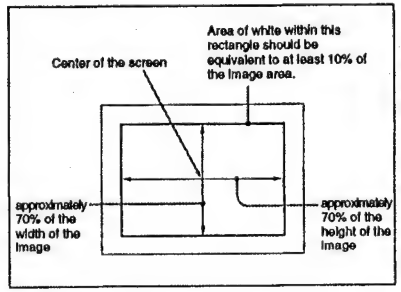


1 Make the following settings on the camera.
- POWER switch: ON SAVE
- OUTPUT/DL/DCC+ switch: one of the CAM positions
- Lens iris selector: A (automatic)
- ATW button: off

2 Set the FILTER control according to the lighting conditions. *(See page 39.)*

3 Set the W. BAL switch to A or B.

4 Arrange a white subject (paper, cloth, etc.) under the same lighting conditions as for shooting, and zoom in on it so that as far as possible the whole screen is white.
The minimum white area requirements for the adjustment are shown in the following figure.



5 Push the WHT/BLK switch in the WHT direction and release.
The white balance adjustment is carried out.
During the adjustment the legend "AUTO WHITE -OP-" appears in the viewfinder.
After a few seconds the adjustment is complete, and the legend in the viewfinder changes to "AUTO WHITE -OK-" plus a color temperature, as shown in the following figure.

White Balance Adjustment

The adjustment value is automatically saved in memory A or B as selected above.

To save the white balance adjustment for different lighting conditions, repeat steps **2** to **4** above. You can save two different values for the white balance, in memories A and B.

- When using a camera control unit, if the W/B BALANCE switch of the camera control unit is set to PRESET or MANUAL, it is not possible to carry out white balance adjustment on the camera.
- When using a CCU-M5/M5P Camera Control Unit, make sure that the MODE switch of the CCU-M5/M5P is in the CAM position.

To recall a white balance value from memory

Before beginning shooting, set the W. BAL switch to the A or B position. This automatically sets the camera to the white balance adjustment saved in the corresponding memory.

If white balance adjustment cannot be completed automatically

The warning message "AUTO WHITE -NG-" appears in the viewfinder.
Make the necessary corrections, then carry out the process again.

Warning messages for white balance adjustment

Message	Meaning and corrections to be made
AUTO WHITE -NG- :LOW LIGHT TRY AGAIN	Light level is too low. • Increase the illumination level, open the iris, or use the GAIN switch to increase the video signal level. • Check the setting of the FILTER control. • After these checks, retry the adjustment.
AUTO WHITE -NG- : ?? TRY AGAIN	The subject is not white, or the lighting level is too high. • Use a white subject. • Lower the illumination level, stop down the iris, or use the GAIN switch to decrease the video signal level. • Check the setting of the FILTER control. • After these checks, retry the adjustment.
AUTO WHITE -NG- :C.TEMP.LOW CHG.FILTER TRY AGAIN	The color temperature is too low. Try the following, in this order of precedence. (1) If the FILTER control is in position 3 or 4, change it to position 1 or 2, then retry the adjustment. (2) Check that the subject is completely white, then retry the adjustment. (3) The color temperature may be outside the range of the camera. Fit an appropriate color temperature conversion filter, then retry the adjustment.
AUTO WHITE -NG- :C.TEMP.HI CHG.FILTER TRY AGAIN	The color temperature is too high. Try the following, in this order of precedence. (1) If the FILTER control is in position 1 or 2, change it to position 3 or 4, then retry the adjustment. (2) Check that the subject is completely white, then retry the adjustment. (3) The color temperature may be outside the range of the camera. Fit an appropriate color temperature conversion filter, then retry the adjustment.
WHITE:PRESET	The W. BAL switch is in the PRESET position. Move the W. BAL switch to the A or B position.
BARS	The camera is outputting a color bar signal. Move the OUTPUT/DL/DCC+ switch to one of the CAM positions.

Using the Preset White Balance Settings

The camera provides two preset white balance settings, for instant shooting with approximately the correct adjustment.
There are also particular shooting conditions under which the preset values may give better results than the human eye adjustment.

1 Set the W. BAL switch to PRESET.

2 Set the FILTER control.

The white balance is automatically adjusted for 3200 K when the FILTER control is in position 1 or 2, and for 5600 K in position 3 or 4.

Light Sources and Color Temperature

Adjustment of the white balance to match the light source is essential to ensure correct color rendering. The color of a light source is indicated as a color temperature in kelvins (K). It is higher for bluish light, and lower for reddish light. When the camera is shipped it is adjusted for use with video lights (halogen lamps with a color temperature of 3200 K). For use with other light sources, therefore, adjustment is required.
First use the FILTER control to set the approximate color temperature, then carry out white balance adjustment.
The following table shows typical color temperature values for different light sources.

Color temperatures of different light sources

Light source			Color temperature (K)
Natural	Artificial		
Clear sky		↑	10,000
Light cloud			8,000
Cloudy or rainy skies		Blue light	7,000
			6,000
	Fluorescent light (daylight white)		5,000
Direct sunlight, noon	Mercury lighting		
	Fluorescent light (white)	White light	
One hour after sunrise or before sunset			
	Fluorescent light (warm white)		4,000
			3,500
	Studio lighting		3,200
	Halogen lamps and video lights	Yellow light	3,000
			2,500
Thirty minutes after sunrise or before sunset	Incandescent lighting		
	Sodium street-lighting		
Sunrise or sunset	Candlelight	Red light	2,000

Using the ATW (Auto Tracing White Balance) Function

The ATW function continuously adjusts the white balance automatically to adapt to changes in lighting conditions.

Note

Depending on the shooting conditions, automatic adjustment may not necessarily give optimum results. For the best possible results, use the W. BAL switch.

To use the ATW function

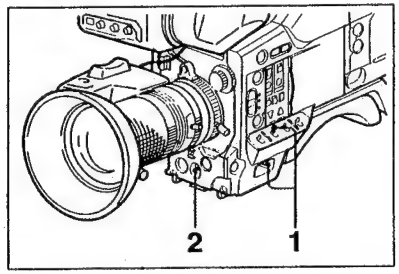
Press the ATW button turning the indicator on.
This activates the ATW function, and the ATW indication appears in the viewfinder.
To disable the ATW function, press the ATW button again, turning the indicator off.

If the ATW function does not operate correctly

A warning massage appears in the viewfinder. *(See page 72.)*

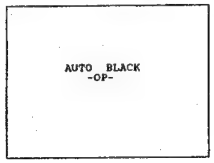
Black Balance Adjustment

Correct adjustment of the black balance is important for optimum operation of a video camera. It is necessary when using the camera for the first time or after a significant period out of use, and also when there has been a sudden change in temperature.
The adjustment value is saved in memory, and readjustment is not normally necessary after powering the camera off or simply when lighting conditions change.



1 Move the POWER switch to the ON SAVE position, and check that the OUTPUT/DL/DCC+ switch is in one of the CAM positions.

2 Push the WHT/BLK switch in the BLK direction and release.
The lens iris closes, and black balance adjustment is carried out.
During the adjustment the legend "AUTO BLACK -OP-" appears in the viewfinder.



After a few seconds the adjustment is complete, and the legend in the viewfinder changes to "AUTO BLACK -OK-".

Notes

- When using a camera control unit, if the W/B BALANCE switch of the camera control unit is set to MANUAL, it is not possible to carry out black balance adjustment on the camera.
- When using a CCU-M5/M5P Camera Control Unit, make sure that the MODE switch of the CCU-M5/M5P is in the CAM position.

If black balance adjustment cannot be completed automatically

The warning message "AUTO BLACK -NG-" appears in the viewfinder.
Make the necessary corrections, then carry out the process again.

Warning messages for black balance adjustment

Message	Meaning and corrections to be made
AUTO BLACK -NG- : IRIS NOT CLOSED TRY AGAIN	The lens iris did not close fully. Check whether the lens cable is connected properly, and whether there is a fault in the lens. If a second attempt to carry out the adjustment fails, consult your Sony dealer.
AUTO BLACK -NG- : ?? TRY AGAIN	The iris opened during adjustment or there is a hardware error. Close the iris and try again. If this fails, consult your Sony dealer.
BARS	The camera is outputting a color bar signal. Move the OUTPUT/DL/DCC+ switch to one of the CAM positions.

Shutter Settings

This section covers the settings for electronic shutter speed, CLS (clear scan) and EVS function.
The new value for the shutter speed or CLS frequency and EVS setting remains set until changed, even when the camera is powered off.

Shutter speeds

There are five shutter speeds, from $^1/_{100}$ s (DXC-D30) or $^1/_{60}$ s (DXC-D30P) to $^1/_{2000}$ s. Increasing the shutter speed reduces blurring when shooting a fast-moving subject. It is also possible to reduce flicker when shooting under fluorescent lighting by changing the shutter speed.

CLS (Clear Scan) function

When shooting a computer screen or projected image, horizontal bands may appear in the camera image. This is because the vertical scan frequency of the computer-generated image is different from the vertical scan frequency of the video system. The clear scan function allows you to select a vertical scan frequency to reduce this interference.

EVS (Enhanced Vertical Scan)

This function enhances the vertical scan resolution from 400 lines to 450 lines to reduce flicker. However, this increases the aliasing.

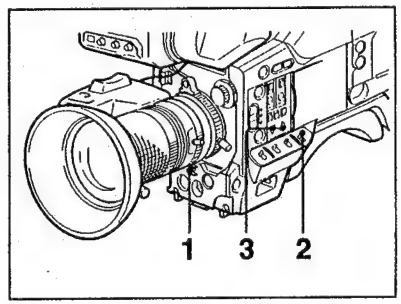
Setting the shutter speed, CLS and EVS function

Notes on setting the shutter speed

- The faster you make the shutter speed, the darker the image becomes. Check the brightness in the viewfinder, and if necessary increase the lighting level or adjust the iris.
- When the shutter speed is very fast, shooting a high intensity subject may cause long vertical tails to appear on the highlights (smear).

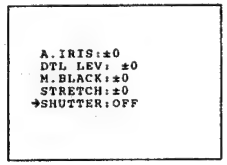
Note on setting the CLS function

The vertical scan frequencies of computer screens vary, and it may not be possible to eliminate the interference patterns entirely. Note also that the vertical scan frequency may change depending on the software being run.

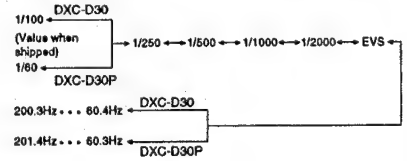


1 Set the SHUTTER switch to the ON position.
The SHUTTER indicator in the viewfinder comes on, and it is now possible to make the shutter speed, CLS or EVS function setting.

2 Operate the MENU/STATUS switch to align the cursor with the item "SHUTTER" in basic menu page 1.



3 Press the UP/ON button or DOWN/OFF button to select the required shutter speed, scan frequency or EVS.
Each time you press the UP/ON button or DOWN/OFF botton, the shutter speed or clear scan frequency setting changes in the following order:



Shutter Settings

When using the clear scan function
Watching the monitor screen, adjust the frequency to give minimum interference.
If there is a black band in the monitor image, reduce the frequency, and if there is a white band, increase the frequency.

To return from the basic menu to the normal indications
Press the MENU/STATUS switch as many times as necessary until the normal indications appear. The new setting of the shutter speed or clear scan frequency appears in the normal screen display.

When shooting is finished
Set the SHUTTER switch to the OFF position.
The SHUTTER indicator in the viewfinder goes off.

Setting the Clock and Timestamping Recordings

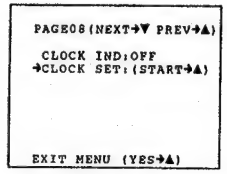
Use advanced menu page 8 to set the camera head's internal clock and record the date and time.

Note
If the following date/time setting procedure for the internal clock does not cause the date/time information to be displayed in the advanced menu page 8, it may be due to a worn-out lithium battery in the camera head. Contact your Sony dealer for replacing the lithium battery.

How to set the date and time

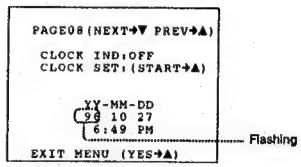
1 Access advanced menu page 8.

For details of menu operations, see "Advanced Menu Operations" *(page 57)*.



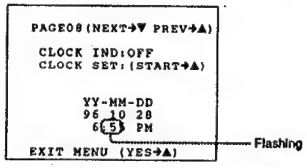
2 Move the cursor to CLOCK SET, then press the UP/ON button.

The following display appears, in which the year indication is flashing.



3 Press the MENU/STATUS switch and the UP/ON button to set the desired date and time.
1) Press the MENU/STATUS switch up or down until the item to be changed starts flashing.
2) Press the UP/ON button to change the number.

Repeat 1) and 2) until you have completed your date and time settings.



4 Select whether to display a 12-hour clock (showing AM and PM hours) or a 24-hour clock.
1) Press the MENU/STATUS switch up or down to select the desired setting (12-hour clock display or 24-hour clock display).

Example of 12-hour clock display: 6:49 PM ("6" and "PM" are flashing)

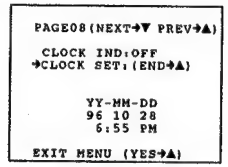
Example of 24-hour clock display: 18:49 PM ("18" is flashing)
2) Press the UP/ON button.

5 Press the UP/ON button to select the date display format.

Each press of the UP/ON button cycles through the following options.
- Year-month-day: YY-MM-DD
  96 10 27
- Month-day-year: MM-DD-YY
  10 27 96
- Day-month-year: DD-MM-YY
  27 10 96

6 Press the MENU/STATUS switch down.

The cursor is shown at the CLOCK SET position.



7 Press the UP/ON button (to a time signal).

The clock starts from 00 seconds. The clock display can be viewed if CLOCK IND has been set to ON.

Timestamping recordings

You can timestamp recordings by superimposing the current date and time.

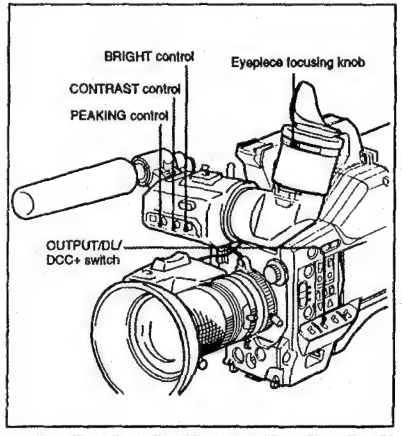
1 Before shooting, set the CLOCK IND to CAM in advanced menu page 8.

The date and time appear in the viewfinder, and are superimposed on the video signal output from the camera.

2 To stop superimposing the date and time, set the CLOCK IND to OFF.

Viewfinder Screen Adjustments

The following adjustments are provided to improve the visibility of the viewfinder screen.
Although these adjustment may make the viewfinder image clearer, they have no effect on the output video signal from the camera.



Adjusting the eyepiece focus

Depending on the eyesight of the camera operator — whether longsighted or shortsighted — the optimal position of the viewfinder image varies. Adjust the eyepiece focus to get the clearest viewfinder image for your eyesight. First focus the image with the lens, then adjust the eyepiece focusing knob. The adjustment range is from –3 to 0 diopters[1] (default when shipped is 0 diopters).
Using an optional part allows you to modify the adjustment range to –2 to +1 diopters or –0.5 to +3 diopters.

For details, consult your Sony dealer.

Contrast and brightness adjustment

Carry out these adjustments with the color bars displayed.

1 Set the OUTPUT/DL/DCC+ switch to the BARS position.
The color bars appear in the viewfinder.

2 Watching the color bars, turn the CONTRAST and BRIGHT controls to adjust the contrast and brightness.

3 Return the OUTPUT/DL/DCC+ switch to its original position.

Outline emphasis adjustment

Turning the PEAKING control changes the degree of outline emphasis in the viewfinder image, to make focusing easier.

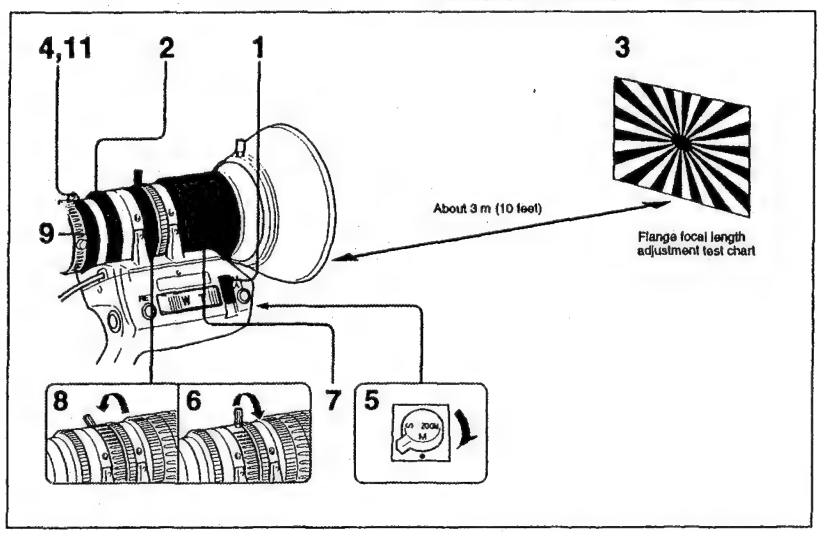
1) **Diopter:** A unit to indicate the degree of convergence or divergence of a bundle of rays.

Adjusting the Lens

Flange Focal Length Adjustment

It is necessary to adjust the flange focal length (the distance from the lens flange to the plane of the image along the optical axis) in the following cases.

- When a lens is fitted for the first time
- After changing lenses
- When during zoom operations the focus does not match properly from telephoto to wide angle



1 Set the iris selector to the M position.

2 Turn the iris ring to f/1.8 (fully open).

3 Place the supplied flange focal length adjustment test chart at a range of about 3 meters (10 feet), and adjust the lighting so that an appropriate video output level is obtained with the iris at f/1.8.

4 Loosen the screw of the Ff adjustment ring.

5 Set the ZOOM selector to the M position.

6 Move the manual zoom control to the telephoto position.

7 Turn the focusing ring so that the test chart is in focus.

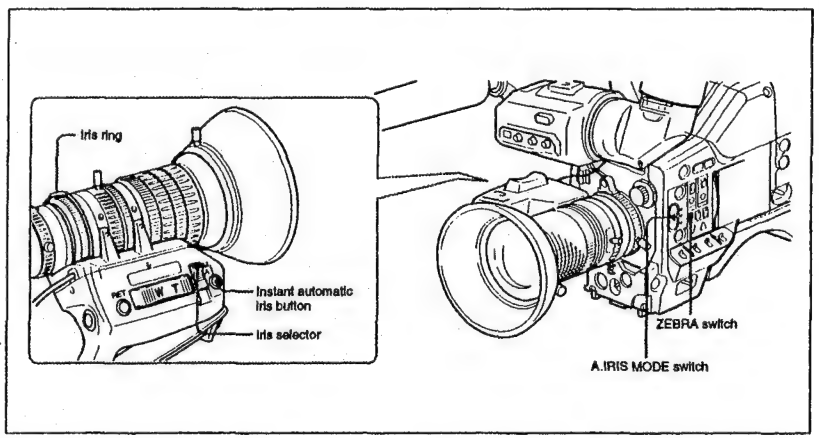
8 Move the manual zoom control to the wide angle position.

9 Turn the Ff adjustment ring so that the test chart is in focus. Do not move the focusing ring.

10 Repeat steps **6** to **9** until the image stays in focus from telephoto to wide angle.

11 After adjustment, tighten the screw of the Ff adjustment ring.

Iris Adjustments



There are three ways of adjusting the iris: automatically, manually, and with the instant automatic iris adjustment function.

Iris adjustment

Adjustment method	Operation
Automatic adjustment mode The iris is adjusted automatically to adapt to changes in the brightness of the subject. This is the mode for normal shooting.	Set the iris selector to the A position.
Manual adjustment mode Use this mode in the following cases: • For special effects • When filming a person with a very bright sky background • When shooting a subject with extreme contrast The zebra pattern can be used as a guideline for iris adjustment.	Set the iris selector to the M position and turn the iris ring as required.
Instant automatic adjustment function While in manual adjustment mode, this function makes a temporary automatic adjustment.	With the iris selector in the M position, hold down the instant automatic iris button for as long as necessary.

To make the image lighter when shooting against the light

In the automatic iris adjustment mode, set the A.IRIS MODE switch to BACK L, turning the indicator on.

To make the image clearer when shooting a subject lit by a spotlight

In the automatic iris adjustment mode, set the A.IRIS MODE switch to SPOT L, turning the indicator on.

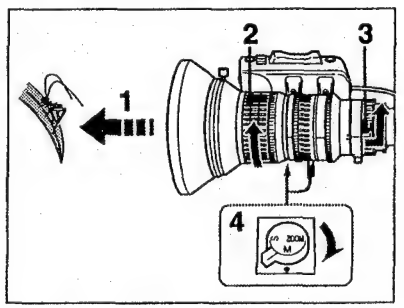
Using the zebra pattern in manual adjustment mode

To use the zebra pattern as a guideline for iris adjustment in manual adjustment mode, set the ZEBRA switch to the ON position.
Select the zebra pattern to be displayed in advenced menu page 4 *(see page 58)*.

- **When the subject is a person**
  Adjust the iris manually so that the zebra pattern appears on the highlights of the subject's face.
- **For other subjects**
  Adjust the iris manually so that the zebra pattern appears on the most important parts of the subject.

Macrophotography

Use the macro function when the subject is less than about 90 cm (3 feet) (for the VCL-916BYA) from the front of the lens. It is possible to shoot close-ups down to a range of 10 mm (wide angle, f = 9 mm).



1 Bring the lens up to the subject so that the image is the required size.

2 Move the focusing ring to the closest focus position.

3 Slide the MACRO button toward the rear of the camera, and turn the MACRO ring fully in the direction shown by the arrow.

4 Move the ZOOM selector to the M position, and turn the manual zoom control to focus the image.

Ending close-up shooting

Return the MACRO ring to its original position (turn fully in the opposite direction to the arrow in the figure).

Reducing the size of the image

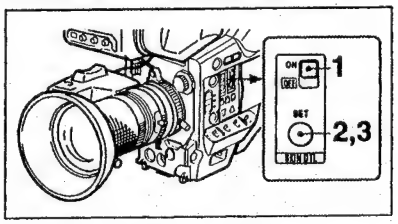
After completing steps **1** to **4** above, if you wish to reduce the size of the image, turn the MACRO ring back slightly, then use the manual zoom control again to focus the image.

Settings for special cases

Shooting conditions	Setting	Effect
The background is very bright, and the subject is too dark.	Set the A.IRIS MODE switch to BACK L, turning the indicator on.	This lightens the foreground.
The subject is under a spotlight.	Set the A.IRIS MODE switch tp SPOT L, turning the indicator on.	This prevents white burn-out in highlights of faces and clothes.
The subject is completely still (e.g. when shooting documents, drawings, etc.).	Enable the EVS (Enhanced Vertical definition System) function. *(See page 75.)* Note Enabling the EVS function tends to increase the occurrence of aliasing problems (moiré patterns). Therefore, normally leave the function disabled.	This enhances the vertical resolution.
When you wish to give a lush effect, as when shooting a wedding or similar occasion.	Use the HISAT file. (Access advanced menu page 9 with the SET UP switch set to FILE.)	This increases the saturation of primary colors.
Shooting under fluorescent lighting.	Use the FL file. (Access advanced menu page 9 with the SET UP switch set to FILE.)	This eliminates the blue-green cast, and restores natural hues.
When shooting bright areas mixed with dark areas (Example: A person indoors looking through a window at a bright landscape outdoors)	Set DL to ON in the advanced menu page 2 and, then set the OUTPUT/DL/DCC+ switch to CAM DL.	Prevents white breakup and color faults in bright areas.
When adjusting for skin detail or tone (Example: When shooting to hide skin details)	See "Skin Detail Correction" or "Adjusting Color in the Specified Area" *(page 84)*.	Adjusts the skin detail or tone to a designated active area.
When you wish to give pictures a natural taste created by film camera.	Use the FILMLIKE file. (Access advanced menu page 9 with the SET UP switch set to FILE.)	The "filmlike" effect is added to the picture.
To make focusing before shooting easier.	Press the EZ FOCUS button, turning the "easy focus" function on.	This opens the iris, to make it easier to focus before beginning shooting.
To begin shooting immediately when there is no time to make adjustments.	Set the EZ MODE switch to the ON position.	This provides automatic adjustment to a set of standard values, to allow immediate shooting.

Skin Detail Correction

The DXC-D30/D30P provides an easy push-button function that designates an active skin tone area.



1 Set the SKIN DTL switch to ON.

The indication "SKIN AREA: ±0" appears in the viewfinder.

2 Press the SKIN DTL SET button.

This causes the area detect cursor to be shown in the viewfinder (for 10 seconds).

3 Place the area detect cursor on the target, then press the SKIN DTL SET button.

This designates the correction area, which is indicated by a zebra pattern, and the indication "SKIN AREA: ±0" appears again. If the area detect cursor disappears before designating the area, press the SKIN DTL SET button again to display the cursor. (Return to step **2**.)

4 Press the UP/ON or DOWN/OFF button to change the SKIN AREA value (–99 to +99)so that the zebra pattern may be displayed in the target area. Use basic menu page 3 to set the correction level *(see page 52)*.

You can also change color in the designated area (see the following section).

Adjusting Color in the Specified Area

You can adjust the specified color using setup files. Perform the same procedure with the skin detail correction to designate the target area .

1 Turn the POWER switch on with holding down the UP/ON button.

2 Perform steps **1** and **2** in "Changing File Settings" *(page 64)* and display the advanced menu page 11 in the most suitable file for shooting.

```
PAGE11 (NEXT→▼ PREV→▲)

 FILE ADJ 2
 FILE:
 SAT:33
 HUE:22
→SKIN SAT:12
 SKIN HUE:15

EXIT MENU (YES→▲)
```

3 Perform the procedure for the skin detail correction to designate the area to which you apply color adjustment.

While this procedure is being performed, the menu is not displayed.

4 When advanced menu page 11 appears, change the value of the SKIN SAT or SKIN HUE to adjust color in the area designated in step **3**.

Note

Set the SKIN DTL to 1.0 in the basic menu page 3 if the detail correction is unnecessary.

Important Notes on Operation

Fitting the zoom lens

It is important to fit the lens correctly, as otherwise damage may result. Be sure to refer to the section "Fitting the Lens" *(See page 26)*.

Do not cover the unit while operating

Putting a cloth, for example, over the unit can cause excessive internal heat build-up.

Operation and storage

Avoid storing or operating the unit in the following conditions.

- In excessive heat or cold (operating temperature range: –10 °C to +45 °C (14 °F to 113 °F))
  Remember that in summer in warm climates the temperature inside a car with the windows closed can easily exceed 50 °C (122 °F).
- In damp or dusty locations
- Locations where the unit may be exposed to rain
- Locations subject to violent vibration
- Close to radio or TV transmitters producing strong electromagnetic fields.

Viewfinder

- Do not leave the camera with the eyepiece pointing directly at the sun.
  The eyepiece lens can concentrate the sun's rays and melt the interior of the viewfinder.
- Do not use the viewfinder close to strong magnetic fields. This can cause picture distortion.

Shipping

Use the optional LC-421 Carrying Case for optimal shipping.
If sending the camera by truck, ship, air or other transportation service, first store it in the carrying case, then pack the carrying case in the supplied carton (or an equivalent).

Care of the unit

Remove dust and dirt from the surfaces of the lenses or optical filters using a blower.
If the body of the camera is dirty, clean it with a soft, dry cloth. In extreme cases, use a cloth steeped in a little neutral detergent, then wipe dry. Do not use organic solvents such as alcohol or thinners, as these may cause discoloration or other damage to the finish of the unit.

In the event of operating problems

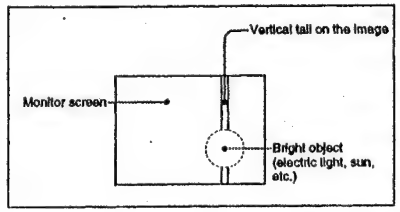
If you should experience problems with the unit, contact your supplier or Sony service representative.

Characteristics of CCD Sensors

The following effects may appear in the image. They are characteristic of cameras using CCDs (charge-coupled devices), and do not indicate a malfunction.

Vertical smear

When shooting a very bright object, such as a light, the highlight tends to produce vertical tails. This effect is much reduced in this camera.



White flecks

If the camera is operated at a high temperature, white flecks may appear in the image.

Warning Indications

If a fault occurs during operation, a warning is given by the REC/TALLY and BATT indicators in the viewfinder and the tally lamp lighting or flashing, and also by warning indications on the viewfinder screen. When you are using a DSR-1/1P or PVV-3/3P, the WARNING indicator on the VTR also lights or flashes, and warning indications appear in the display window. There is also a warning tone in the earphone.

Warning Indications

Camera			VTR			Fault	VTR action	What to do
REC/TALLY indicator and tally lamp	BATT indicator	Viewfinder screen indication	WARNING indicator	Display window	Warning tone			
[Flashing four times per second]	—	—	[Flashing four times per second]	RF (during recording only)	[Four beeps per second] (During recording only)	The video heads are clogged, or there is some other fault in the recording system.	The VTR emits a warning tone when it detects head clogging.	Carry out head cleaning, referring to the instruction manual for the VTR. If the problem persists after cleaning the heads, disconnect the power and consult your Sony dealer.
[Flashing four times per second]	—	—	[Flashing four times per second]	SERVO	[Four beeps per second]	The servo lock has been lost.	Recording continues, but the recording may not be satisfactory.	Disconnect the power and consult your Sony dealer. (The SERVO indication may flash momentarily when the tape transport starts, but this does not indicate a problem.)
[Flashing four times per second]	—	—	[Continuous]	HUMID	[Four beeps per second] (During recording) [Continuous] (During playback, rewind, or fast forward)	There is condensation.	Recording continues, but if the tape sticks to the drum, recording stops. Playback, rewind, or fast forward stops.	Stop the tape transport. Wait until the HUMID indication does not appear when you power the unit on.
[Flashing four times per second]	—	—	[Flashing four times per second]	SLACK	[Continuous]	The tape is not wound properly.	The operation stops. (Refer to the service manual or maintenance manual.)	Press the EJECT button to eject the cassette. Close the cassette compartment and check that the top panel has descended before powering off. Then consult your Sony dealer. (Do not attempt to insert any cassette.)
[Flashing once per second]	—	—	[Flashing once per second] (During recording only)	TAPE (flashing, during recording only)	[One beep per second]	The tape is near the end.	Operation continues.	Change the cassette if necessary.
[Flashing four times per second]	—	—	[Continuous]	TAPE (flashing)	[Continuous]	The tape is at the end.	Recording, playback, and fast forward all stop.	Change the cassette.
[Flashing once per second]	[Flashing once per second]	BATT 11.0V	[Flashing once per second]	BATT (flashing)	[One beep per second] (During recording)	The battery is almost exhausted.	Operation continues.	Change the battery when possible.
[Flashing four times per second]	[Continuous]	BATT 10.5V	[Continuous]	BATT (flashing)	[Continuous]	The battery is exhausted.	Operation continues.	Change the battery.

Continuous Flashing once per second Flashing four times per second

Four beeps per second One beep per second Continuous

For the warnings appearing in the viewfinder when a VTR is connected, see the section "Viewfinder Normal Indications" (page 47).

Specifications

DXC-D30/D30P Camera Head

Imaging element: Three-chip interline transfer CCD

Pixel resolution: 768 (horizontal) × 494 (vertical) (DXC-D30)
752 (horizontal) × 582 (vertical) (DXC-D30P)

Imaging area: 8.8 × 6.6 mm (corresponds to 2/3-inch picture tube)

Built-in filter settings
- 1: 3200K
- 2: 5600K + 1/8ND
- 3: 5600K
- 4: 5600K + 1/64ND

Lens mount: Bayonet mount

Signal standards: EIA standard signal (NTSC color system) (DXC-D30)
CCIR standard signal (PAL color system) (DXC-D30P)

Scanning system: 525 lines, 2:1 interlace (DXC-D30)
625 lines, 2:1 interlace (DXC-D30P)

Scanning frequencies
Horizontal:
15.734 kHz (DXC-D30)
15.625 kHz (DXC-D30P)
Vertical: 59.94 Hz (DXC-D30)
50.00 Hz (DXC-D30P)

Synchronization: Internal sync
External sync, using signal input (VBS or BS) to the GEN LOCK IN connector of an optional camera adaptor or input from the GEN LOCK connector of a CCU-M5/M5P/M7/M7P camera control unit to the VTR/CCU/CMA connector of an optional camera adaptor.

Horizontal resolution
850 TV lines (center)

Minimum illumination
0.5 lux (at f/1.4, +36 dB)
0.8 lux (at f/1.8, +36 dB)

Sensitivity: 2000 lux (f/11.0 standard, 3200 K)

Gain levels: Selectable –3 dB, 0 dB, 3 dB, 6 dB, 9 dB, 12 dB, 18 dB, 18 dB + DPR, 24 dB, 24 dB + DPR, hyper gain (30 dB + DPR)

Video output: Composite signal
1.0 Vp-p, sync negative, 75 Ω, unbalanced
Y/C separate signals
Y: 1.0 Vp-p, sync negative, unbalanced
C: burst level 0.286 Vp-p, no sync

Video S/N ratio: 63 dB (typical) (DXC-D30)
61 dB (typical) (DXC-D30P)

Registration: 0.05% for all zones, without lens

Input/output connectors
VIDEO OUT connector: BNC, 75 Ω, unbalanced
LENS connector: 12-pin, for 2/3-inch lens
VF connector (front): 20-pin
VF connector (left side): 8-pin
REMOTE connector 1: Stereo mini-jack
REMOTE connector 2: 10-pin
MONITOR OUT connector: BNC, 75 Ω, unbalanced

Power supply: 12 V DC

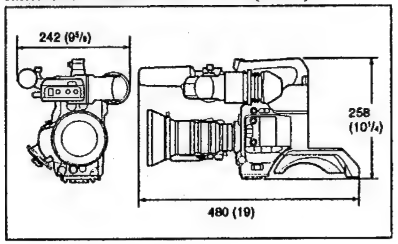
Power consumption
16.1 W (with viewfinder)

Operating temperature
–10 °C to +45 °C (14 °F to 113 °F)

Storage temperature
–20 °C to +60 °C (–4 °F to 140 °F)

Mass: 2.3 kg approx. (5 lb 1 oz)

External dimensions in millimeters (inches)



VCL-916BYA Zoom Lens

Focal length: 9.0 to 144 mm

Zoom: Manual or power, selectable; zoom ratio: ×16

Maximum aperture
1:1.8

Iris: Manual or automatic, selectable; f/1.8 to f/16 and C (closed)

Specifications

Subject area (at 0.9 m (3 feet))
Wide angle: 815 × 611 mm (32 × 24 inches)
Telephoto: 51 × 38 mm (2 × 1½ inches)
Focusing range Infinity to 0.9 m
Filter attachment threads
77 mm dia., 0.75 mm pitch (on lens)
86 mm dia., 1 mm pitch (on lens hood)
Mounting Sony ⅔-inch bayonet mount
Mass 1.2 kg approx. (2 lb 10 oz) (excluding lens hood)
External dimensions
120 × 197 mm (diameter × length) (4¾ × 7⅞ inches) (with lens hood, focused at infinity)

DXF-701/701CE Viewfinder

Picture tube 1.5-inch monochrome
Indicators REC/TALLY (×2), BATT, SHUTTER, GAIN UP
Resolution 600 TV lines
Power supply 12 V DC
Power consumption
2.1 W
Mass 660 g approx. (1 lb 7 oz)
Maximum external dimensions
236 (W) × 85 (H) × 219 (D) mm (9⅜ × 3⅜ × 8⅝ inches)

Supplied accessories

VCL-916BYA Zoom Lens[1] (1)
DXF-701/701CE Viewfinder[2] (1)
Microphone[2] (1)
Wind screen[2] (1)
VCT-U14 Tripod Adaptor[2] (1)
Lens mount cap (1)
Flange focal length adjustment test chart (1)
Operating Instructions (1)
Clip Link™ Guide (1)

Design and specifications are subject to change without notice.

Related Products

There is a range of Sony products available to meet every conceivable video shooting requirement. For details, consult your Sony sales representative or supplier.

Lenses
VCL-915BYA/916BY/1012BY Zoom Lens

Camera adaptor products
CA-325A/325AP/325B/327/327P/511/512[3]/512P[3]/513/537/537P Camera Adaptor
CMA-8A/8ACE Camera Adaptor
RM-M7G Camera Remote Control Unit

VTR products
DSR-1/1P Digital Videocassette Recorder
EVV-9000/9000P Videocassette Recorder
PVV-1/1P/1A/1AP/3/3P Portable Videocassette Recorder
VO-8800/8800P Portable Videocassette Recorder
BVU-150/150P Portable Videocassette Recorder
BVV-5/5PS Videocassette Recorder
BVW-50/50P Portable Videocassette Recorder
VA-5/5P/90/90P VTR Adaptor

Battery products
NP-1B/1A Battery Pack
BP-90A Battery Pack
BC-1WD/1WDCE/1WB/1WBCE/410/410CE Battery Charger

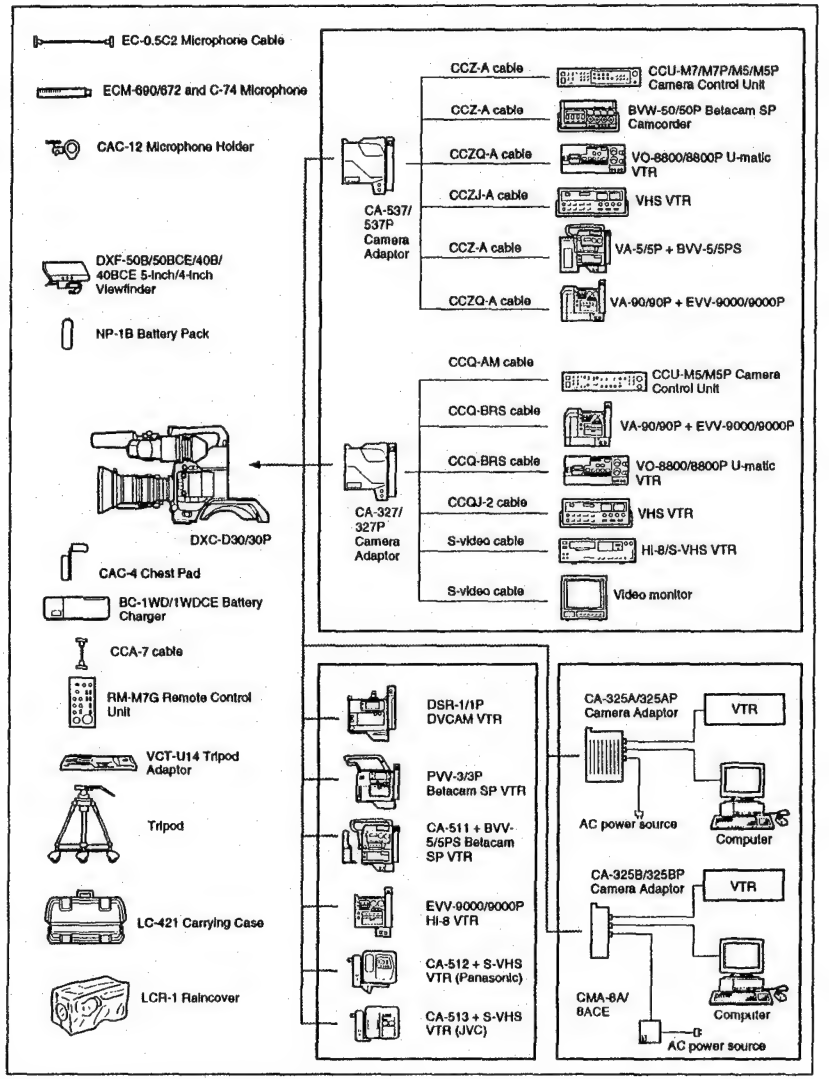
Microphone products
ECM-670/672 Electret Condenser Microphone
C-74 Condenser Microphone
CAC-12 Microphone Holder
EC-0.5C2 Microphone Cable
EC-0.3C2 Micorphone Cable

Studio equipment
CCU-M3/M3P/M5/M5P/M7/M7P Camera Control Unit
SEG-2550A/2550AP Special Effects Unit
CRK-2000/2000P Chroma Keyer
WEX-2000 Wipe Pattern Extender
DXF-50B/50BCE 5-inch Viewfinder (monochrome)
DXF-40B/40BCE 4-inch Viewfinder (monochrome)
DR-100 Intercom Headset
RMM-1800 Rack Mounting Kit

Cables and miscellaneous
The suffix number on a cable part number indicates the length in meters: e.g. a CCZ-A2 is 2 meters long. (Approximate equivalents in feet: 2 m = 6 ft, 5 m = 16 ft, 10 m = 33 ft, 25 m = 82 ft, 50 m = 164 ft, 100 m = 328 ft)
Camera cables with Z-type 26-pin connectors
CCZ-A2/A5/A10/A25/A50/A100
Camera cables with Q-type 14-pin connectors
CCZQ-A2/A5/A10/A2AM
CCZZ-1B/1E Cable Extension Connector
Camera cables with Q-type 14-pin connectors
CCQ-2BRS/5BRS/10BRS
CCQ-10AM/25AM/50AM/100AM
CCZJ-2 Camera Cable with Z-type 26-pin connector and J-type 10-pin connector
LC-421 Carrying Case
LCR-1 Rain Cover
CAC-4 Chest Pad
LC-304SFT Soft Case

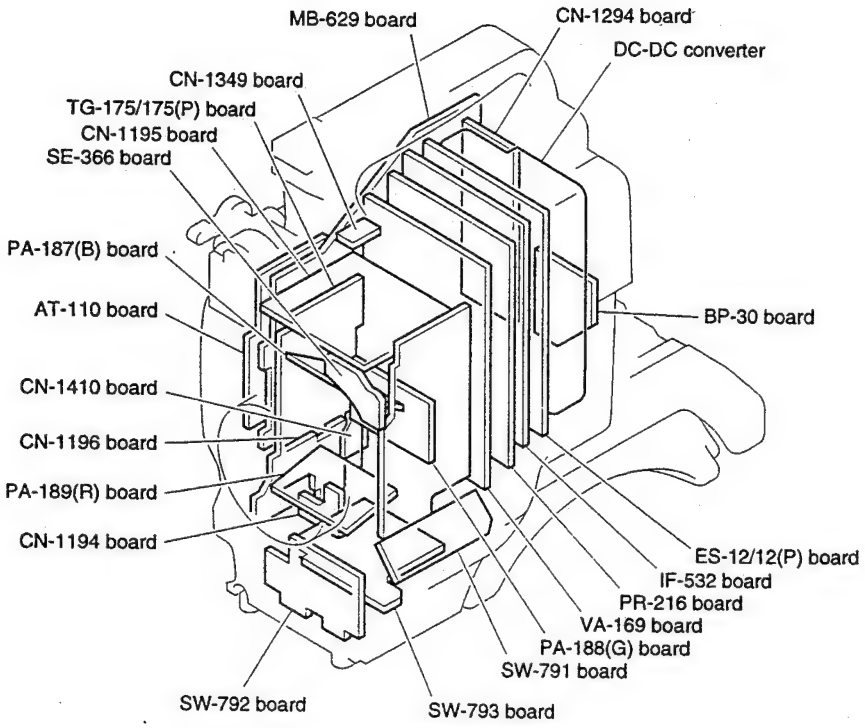
1) DXC-D30F/D30K/D30PF/D30PK
2) DXC-D30F/D30K/D30L/D30PF/D30PK/D30PL
3) When connecting a CA-512/512P, remove the blank panel on the CA-512/512P.

Chart of Optional Components and Accessories



SECTION 2
SERVICE INFORMATION

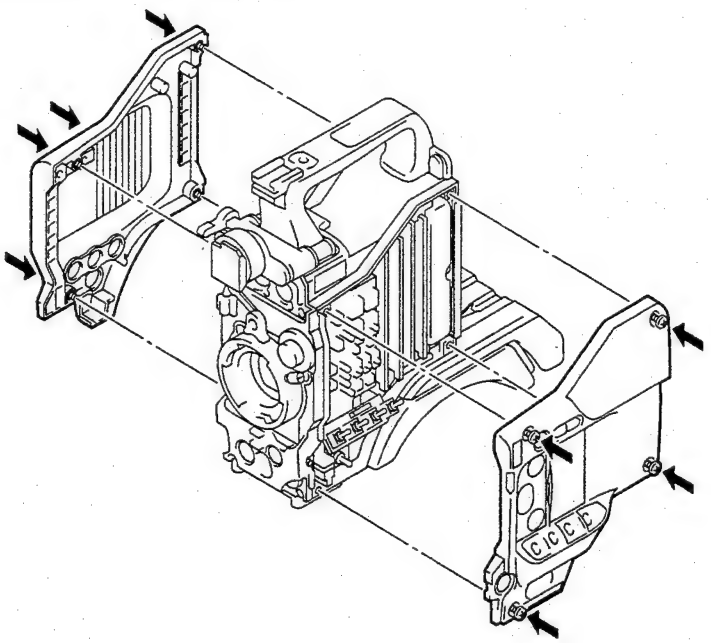
2-1. BOARD LAYOUT



2-2. REMOVAL OF CABINET

2-2-1. Removal of Side Plate

Loosen the four screws respectively to remove the side plates.



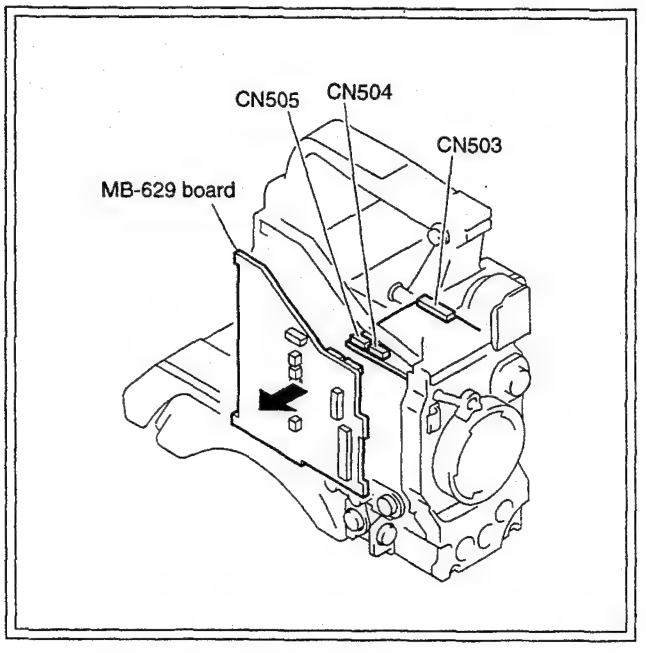
CAUTION

2-2-2. Cautions on Removal of Top Chassis

When removing the top chassis, following items should be performed. If not, the connectors (CN503, CN504, CN505) should be damaged.

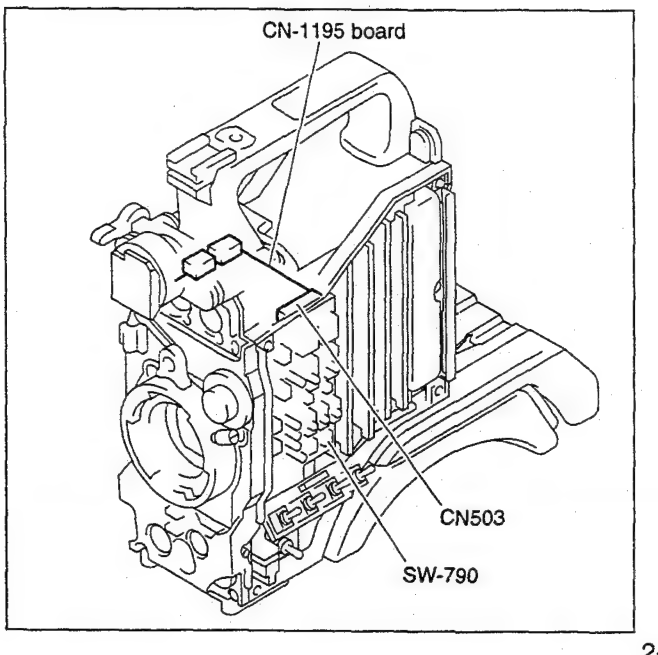
1. Disconnect the two connectors CN504 and CN505 on the CN-1195 board.

2. Remove the MB-629 board in the holizontal direction. Because, not to break the connectors.



3. Disconnect the connector CN503.

4. Remove the SW-790 board.



2-3. REPLACEMENT OF MAIN PARTS

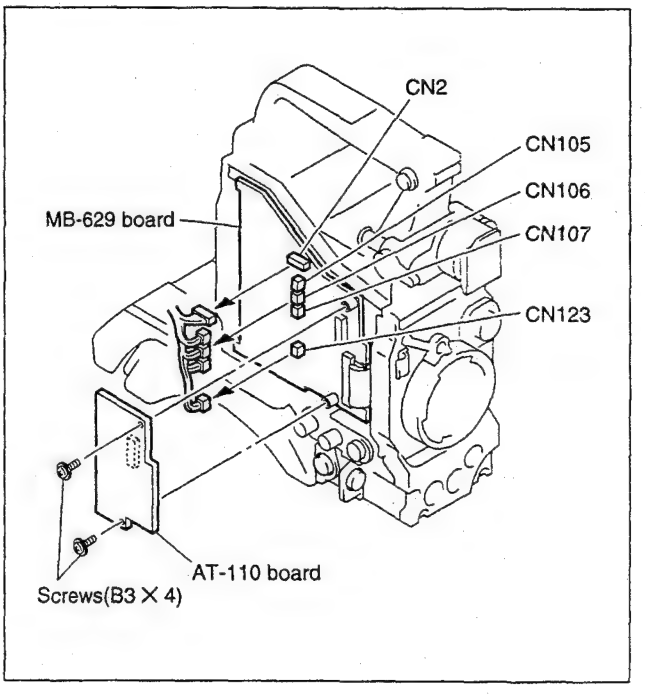
2-3-1. Replacement of CCD Unit

1. Remove the lens and viewfinder referring to the instruction manual.

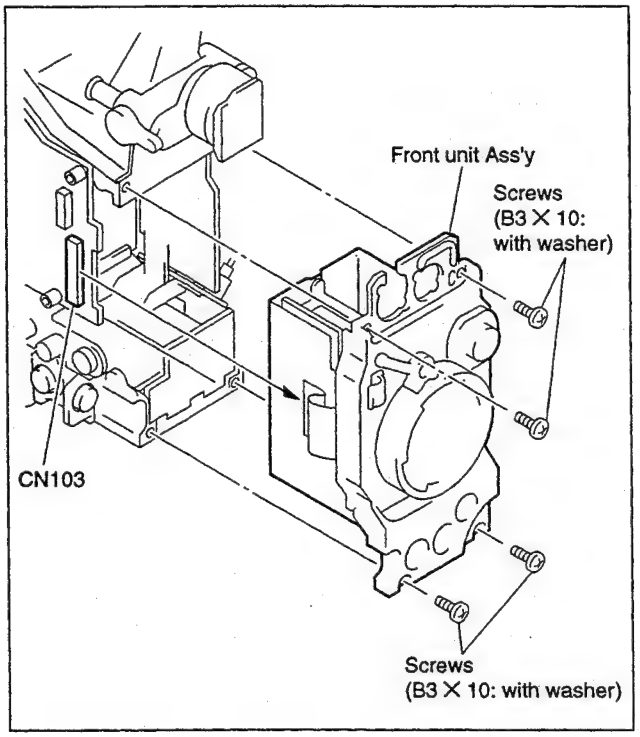
   Note: Attach a mount cap to the lens mount to protect the prism block.

2. Remove the left side plate referring to Section 2-2-1. "Removal of Side Plate".

3. Remove two screws as shown in Figure.
   Remove the AT-110 board. Disconnect the five connectors CN2, CN105, CN106, CN107 and CN123 on the MB-629 board.

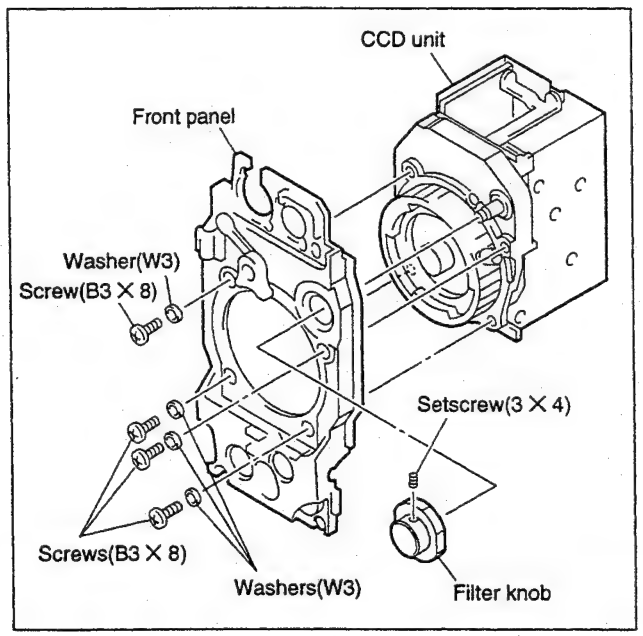


4. Remove four screws (B3 × 10 : with washer). Disconnect the two connectors, CN2 and CN14 on the MB-629 board. Pull out the Front unit Ass'y.



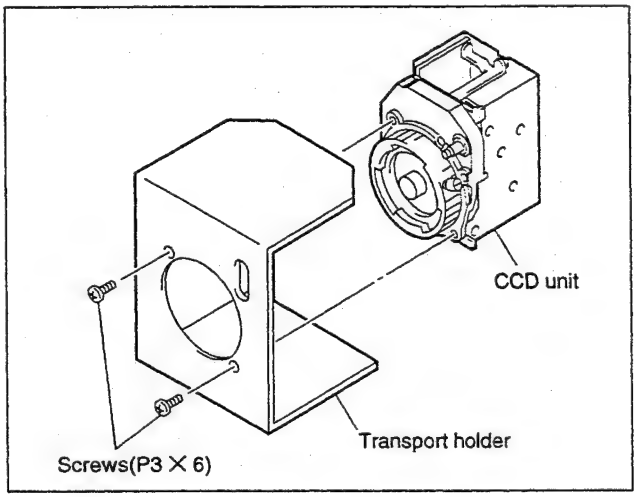
5. Remove setscrew (3 × 4) and remove the filter knob. Remove four screws (B3 × 8) and washers. Remove the CCD unit from the Front unit Ass'y.

Note: When handling the CCD unit, pay attention not to stress each PA board.



6. Remove the CCD unit from transport holder for replacement CCD unit supplied from the Sony Part Center. When installing a new CCD unit, reverse the above procedures.
After the replacement is complete, perform several adjustments referring to Section 3-1-4."Note on Adjustment".

Note: When transporting the CCD unit that was removed from the unit, reuse the transport holder.



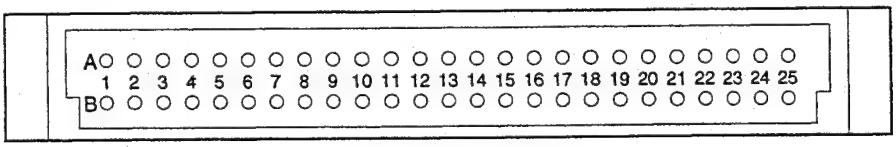
2-4. CONNECTORS AND CABLES

2-4-1. Connector Input/Output Signals

The main connector input/output signals are as follows:

MONITOR OUT (JACK); 1.0 Vp-p ± 0.1 V, sync negative 75 Ω
VIDEO OUT (BNC); 1.0 Vp-p ± 0.1 V, sync negative 75 Ω

CAMERA/CA (50P)



(EXTERNAL VIEW)

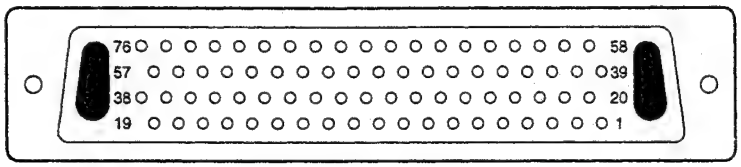
Pin No.	Signal	Specification
A1	MODE ID IN	OPEN: COMP, GND: R/G/B
B1	GND (CHASSIS)	
A2	MIC (Y) OUT	–60 dBm
B2	MIC (X) OUT	
A3	MIC (G) OUT	
B3	EAR (G) IN	
A4	REC TALLY IND IN	Zi ≧ 600 Ω
B4	EAR (X) IN	–6 dBu
A5	VTR TRIG OUT	
B5	REC RESET IN	
A6	S.D (V/C) IN	H: 5 V L: 0 ± 0.5 V Zi ≧ 47 kΩ Zo ≦ 1 kΩ
B6	S.D (V/C) OUT	
A7	CS VTR IN	
B7	SCL VTR IN	
A8	GENLOCK VIDEO (G) IN	VBS : 1.0 Vp-p Zi ≧ 1 kΩ
B8	GENLOCK VIDEO (X) IN	
A9	SYNC (G) OUT	H: 4.0 to 5.5 Vp-p : NEGATIVE L: 0 ± 0.4 Vdc Zo ≦ 2 kΩ
B9	SYNC (X) OUT	
A10	PB RET VIDEO (G) IN	1.0 Vp-p Zi ≧ 10 kΩ
B10	PB RET VIDEO (X) IN	
A11	CF/V RESET I/O	H: 4.0 to 5.5 Vp-p Zo ≦ 2 kΩ L: 0 ± 0.4 Vdc
B11	VF VIDEO CONT IN	CAM : OPEN Zi ≧ 1 kΩ, PB : 0 V
A12	VBS (CA) (G) OUT	1.0 Vp-p, SYNC NEGATIVE Zo = 75 Ω ± 5 %
B12	VBS (CA) (X) OUT	
A13	STBY/SAVE OUT	STBY: 4.0 to 5.5 Vp-p Zo ≦ 100 Ω SAVE: 0 ± 0.25 V
B13	VTR/CCU CONT OUT	VTR : 0 ± 0.25 V Zo ≦ 1 kΩ CCU : 5.0 ± 0.5 V
A14	CHROMA (G) OUT	NTSC: 0.286 Vp-p ± 10% PAL: 0.300 Vp-p ± 10% Zo ≦ 75 Ω ± 5%
B14	CHROMA (X) OUT	

Pin No.	Signal	Specification
A15	Y (G) OUT	1.0 Vp-p, SYNC NEGATIVE Zo ≦ 75 Ω ± 5%
B15	Y (X) OUT	
A16	COMP (CA) GND	R/G/B 1.4 Vp-p, POSITIVE Zo ≦ 75 Ω ± 5% COMPONENT OUT *1
B16	R/R-Y (CA) OUT	
A17	G/Y (CA) OUT	
B17	B/B-Y (CA) OUT	
A18	BATT ALARM/S. DATA	
B18	REC REVIEW CONT OUT	GND; REC REVIEW
A19	(SPARE)	
B19	(SPARE)	
A20	+8.5 V OUT 9.0 V	8.3 V to 9.1 V
B20	+5 V OUT	±0.1 V
A21	–5 V OUT	
B21	AGND	REG, GND
A22	POWER +12 V DC IN	10.6 V to 17.0 Vdc
B22	POWER +12 V DC IN	
A23	POWER +12 V DC GND	GND for ± 12 Vdc
B23	POWER +12 V DC GND	
A24	(SPARE)	
B24	(SPARE)	
A25	GND (CHASSIS)	CHASSIS GND
B25	GND (CHASSIS)	

*1

	UC	CE
Y	0.714 Vp-p	0.700 Vp-p
R-Y	0.700 Vp-p	0.525 Vp-p
B-Y	0.700 Vp-p	0.525 Vp-p

CAMERA/CA (76P,MALE)



(EXTERNAL VIEW)

Pin No.	Signal	Specification
1	REC TALLY IN	Zi ≧ 600 Ω
2	S.D. (V/D) IN	H: 5 V L: 0 ± 0.5 V
3	SCL VTR IN	Zi ≧ 47 kΩ Zo ≦ 1 kΩ
4	GENLOCK (G) IN	VBS : 1.0 Vp-p Zi ≧ 1 kΩ
5	SYNC (G) IN	H: 4.0 to 5.5 Vp-p : NEGATIVE L: 0 ± 0.4 Vdc Zo ≦ 2 kΩ
6	PB (G) IN	1.0 Vp-p Zi ≧ 10 kΩ
7	PB (Y) (X) IN	1.0 Vp-p, NEGATIVE, Zi ≧ 1 kΩ
8	VBS (CA) (G) OUT	1.0 Vp-p, SYNC NEGATIVE Zo = 75 Ω ± 5%
9	$\overline{\text{VTR}}$/CCU OUT	VTR : 0 ± 0.25 V Zo ≦ 1 kΩ CCU : 5.0 ± 0.5 V
10	C (X) OUT	NTSC: 0.286 Vp-p ± 10% PAL: 0.300 Vp-p ± 10% Zo ≦ 75 Ω ± 5%
11	Y (X) OUT	1.0 Vp-p, SYNC NEGATIVE Zo ≦ 75 Ω ± 5%
12	R/R-Y (CA) OUT	R/G/B 1.4 Vp-p, POSITIVE Zo ≦ 75 Ω ± 5% COMPONENT OUT *1
13	B/B-Y (CA) OUT	
14	SKIN GATE OUT	Gate area (H: 4 to 5.5 Vdc) Non gate area (L: 0 ±0.2 Vdc)
15	+5.0V OUT	±0.1 V
16	AGND	REG, GND
17	EXT DC IN	10.6 V to 17.0 Vdc
18	EXT DC GND	GND for ± 12 Vdc
19	DCLK (X) OUT	
20	VTR TRIG OUT	
21	S.D. (C/V) OUT	H: 5 V L: 0 ± 0.5 V Zi ≧ 47 kΩ Zo ≦ 1 kΩ
22	CS VTR IN	
23	GENLOCK (X) IN	Zi ≧ 1 kΩ
24	SYNC (X) IN	H: 4.0 to 5.5 Vp-p : NEGATIVE L: 0 ± 0.4 Vdc Zo ≦ 2 kΩ
25	PB (VBS) (X) IN	Zi ≧ 10 kΩ
26	CF/V RESET I/O	H: 4.0 to 5.5 Vp-p Zo ≦ 2 kΩ L: 0 ± 0.4 Vdc

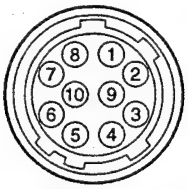
Pin No.	Signal	Specification
27	VBS (CA) (X) OUT	1.0 Vp-p, SYNC NEGATIVE Zo = 75 Ω ± 5%
28	C (G) OUT	NTSC: 0.286 Vp-p ± 10% PAL: 0.300 Vp-p ± 10% Zo ≦ 75 Ω ± 5%
29	Y (G) OUT	1.0 Vp-p, SYNC NEGATIVE Zo ≦ 75 Ω ± 5%
30	COMP GND	R/G/B 1.4 Vp-p, POSITIVE Zo ≦ 75 Ω ± 5% COMPONENT OUT *1
31	G/Y (CA) OUT	
32	BATT S.DATA IN	
33	+9.0 V OUT	8.3 V to 9.1 V
34	-5.0 V OUT	±0.1 V
35	EXT DC IN	10.6 V to 17.0 Vdc
36	EXT DC GND	GND for ± 12 Vdc
37	DCF OUT	
38	DCLK GND	
39	MODE ID IN	
40	MIC1 (G) OUT	OPEN: COMP, GND: R/G/B
41	AUDIO LEV OUT	H: 4 to 5.5 Vdc L: 0 ±0.2 Vdc, 1 kΩ
42	(SPARE)	
43	DIGI/ANA IN	H: Analog L: Digital
44	(SPARE)	
45	(SPARE)	
46	(SPARE)	
47	(SPARE)	
48	(SPARE)	
49	(SPARE)	
50	(SPARE)	
51	(SPARE)	
52	DCLK GND	H: 3 ±0.2 Vdc L: 0 ±0.2 Vdc
53	BYRY (0) OUT	
54	BYRY (2) OUT	
55	BYRY (4) OUT	
56	BYRY (6) OUT	
57	BYRY (8) OUT	
58	MIC1 (X) OUT	–20 dBm , Zo ≦ 100 Ω
59	MIC1 (Y) OUT	

Pin No.	Signal	Specification
60	(SPARE)	
61	(SPARE)	
62	76P ID	
63	(SPARE)	
64	(SPARE)	
65	(SPARE)	
66	(SPARE)	
67	(SPARE)	
68	(SPARE)	
69	(SPARE)	
70	(SPARE)	
71	(SPARE)	
72	BYRY (1) OUT	H: 3 ±0.2 Vdc L: 0 ±0.2 Vdc
73	BYRY (3) OUT	
74	BYRY (5) OUT	
75	BYRY (7) OUT	
76	BYRY (9) OUT	

*1

	UC	CE
Y	0.714 Vp-p	0.700 Vp-p
R-Y	0.700 Vp-p	0.525 Vp-p
B-Y	0.700 Vp-p	0.525 Vp-p

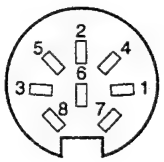
REMOTE (10P, FEMALE)



(EXTERNAL VIEW)

Pin No.	Signal	Specification
1	(SPARE)	
2	VBS (RM) (X)	1.0 Vp-p, SYNC NEGATIVE
3	VBS (RM) (G)	
4	RS232C(C/RM) IN	
5	VTR START/STOP IN	Zi ≥ 10 kΩ OPEN (4.5 ± 0.5 V) 0 ± 0.5 V
6	S. DATA (X)	0 to 5 V Zi ≧ 10 kΩ
7	RS232C(RM/C) IN	GND for S. DATA
8	REC TALLY IND OUT	Zo ≧ 600 Ω
9	POWER +12 V DC GND	GND for +12 Vdc
10	POWER +12 V DC OUT	10.6 V to 17.0 Vdc

VF (8P, FEMALE)



(WIRING SIDE)

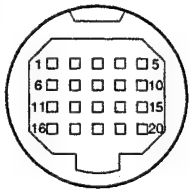
Pin No.	Signal	Specification
1	POWER +12 V DC GND	GND for +12 Vdc
2	REC TALLY IND OUT	Zo ≦ 1.1 kΩ
3	SHUTTER IND OUT	Zo ≦ 1.1 kΩ
4	VF VIDEO (G) OUT	GND for VF VIDEO
5	BATT IND OUT	Zo ≦ 1.1 kΩ
6	VF VIDEO (X) OUT	V = 1 Vp-p
7	POWER +12 V DC OUT	10.6 V to 17.0 Vdc
8	GAIN UP IND OUT	Zo ≦ 1.1 kΩ

LENS (12P, FEMALE)

(EXTERNAL VIEW)

Pin No.	Signal	Specification
1	RET SW-IN	ON : 0 ± 0.5 Vdc
2	VTR START/STOP IN	TRIG : 0 ± 0.5 V
3	POWER +12 V DC GND	GND for +12 Vdc
4	COMPULSORY AUTO IRIS CONT OUT	AUTO : 4.5 ± 0.5 V MANU : 0 + 0.5 V or OPEN
5	IRIS CONT OUT	F16 : 3.4 Vdc F2.8 : 6.2 Vdc
6	POWER +12 V DC OUT	10.6 V to 17.0 Vdc
7	IRIS POSI IN	F16 : 3.4 ± 0.1 Vdc F2.8 : 6.2 ± 0.1 Vdc
8	REMOTE/$\overline{\text{LOCAL}}$ OUT	REMOTE : 5 V LOCAL : 0 V
9	EXTND $\overline{\text{ON}}$/OFF IN	
10	ZOOM POSI IN	
11	(SPARE)	
12	(SPARE)	

VF (20P, FEMALE)



(EXTERNAL VIEW)

Pin No.	Signal	Specification
1	PEAKING CONT IN	Zi ≧ 5 kΩ
2	SWD EXT DC OUT	10.5 V to 17.0 Vdc, 2 A
3	REC TALLY IND OUT	Zo ≦ 500 Ω
4	BATT IND OUT	Zo ≦ 1.1 kΩ
5	ZEBRA SW IN	ON : 0 ± 0.5 V
6	VF VIDEO (X) OUT	V = 1.0 Vp-p
7	SWD EXT DC OUT	10.5 V to 17.0 Vdc, 2 A
8	(SPARE)	
9	(SPARE)	
10	SDA (VF) OUT	Zo ≦ 500 Ω, 5 Vp-p
11	VF VIDEO (G) OUT	GND for VF VIDEO
12	EXT DC GND	GND for EXIT DC
13	(SPARE)	
14	(SPARE)	
15	SCL (VF) OUT	Zo ≦ 500 Ω, 5 Vp-p
16	R-Y (VF) OUT	V = 830 mV
17	EXT DC GND	GND for EXIT DC
18	B-Y (VF) OUT	V = 830 mV
19	SYNC (VF) OUT	V = 5 Vp-p
20	LD (VF) OUT	Zo ≦ 500 Ω, 5 Vp-p

MIC (3P, FEMALE)

(EXTERNAL VIEW)

Pin No.	Signal	Specification
1	MIC (G) IN	GND for MIC
2	MIC (X) IN	–60 dB BALANCED (0 dB = 0.775 V)
3	MIC (Y) IN	

2-4-2. Connection Connector

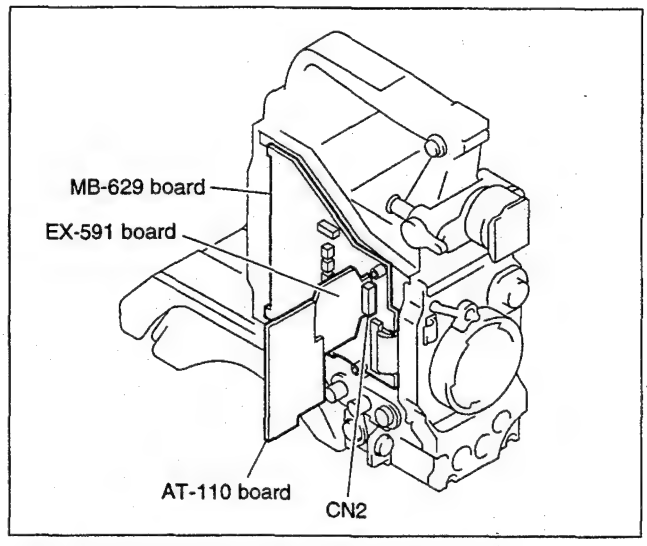
Connections made with the connector panels during installation or service, should be made with the connectors or complete cable assemblies specified in the following list, or equivalent parts.

Connector Name	Parts No. and name of connector with cable
REMOTE (10P, FEMALE)	1-506-522-11 CONNECTOR, ROUND 10P, MALE HIROSE HR 10A-10P-10P equality or CCA-7-20 Cable assembly (optional)
VIDEO OUT (BNC)	1-560-661-11 PLUG, BNC
VF (8P, FEMALE)	9-994-797-01 CABLE, VF
LENS (12P, FEMALE)	1-564-360-11 CONNECTOR, 12P, MALE HIROSE HR 10-10PA-12P equality
MIC (3P, FEMALE)	1-508-084-31 CONNECTOR, 3P, MALE CANNON XLA-3-12C equality
VF (20P, FEMALE)	1-778-661-11 CONNECTOR, 20P, MALE HIROSE HR 12-14PA-20PC equality

2-5. HOW TO HANDLE OF AT-110 BOARD

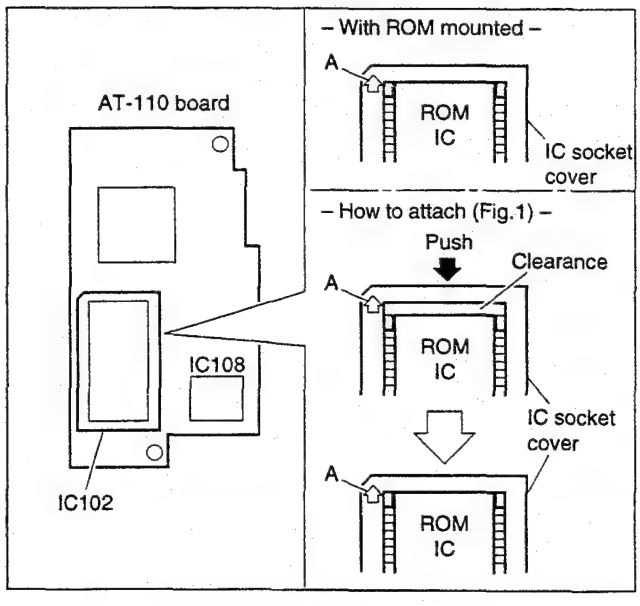
2-5-1. How to Attach of the Extention Board EX-591

When using the extension board EX-591, attach as follows.



2-5-2. Replacement Way of ROM(IC102)

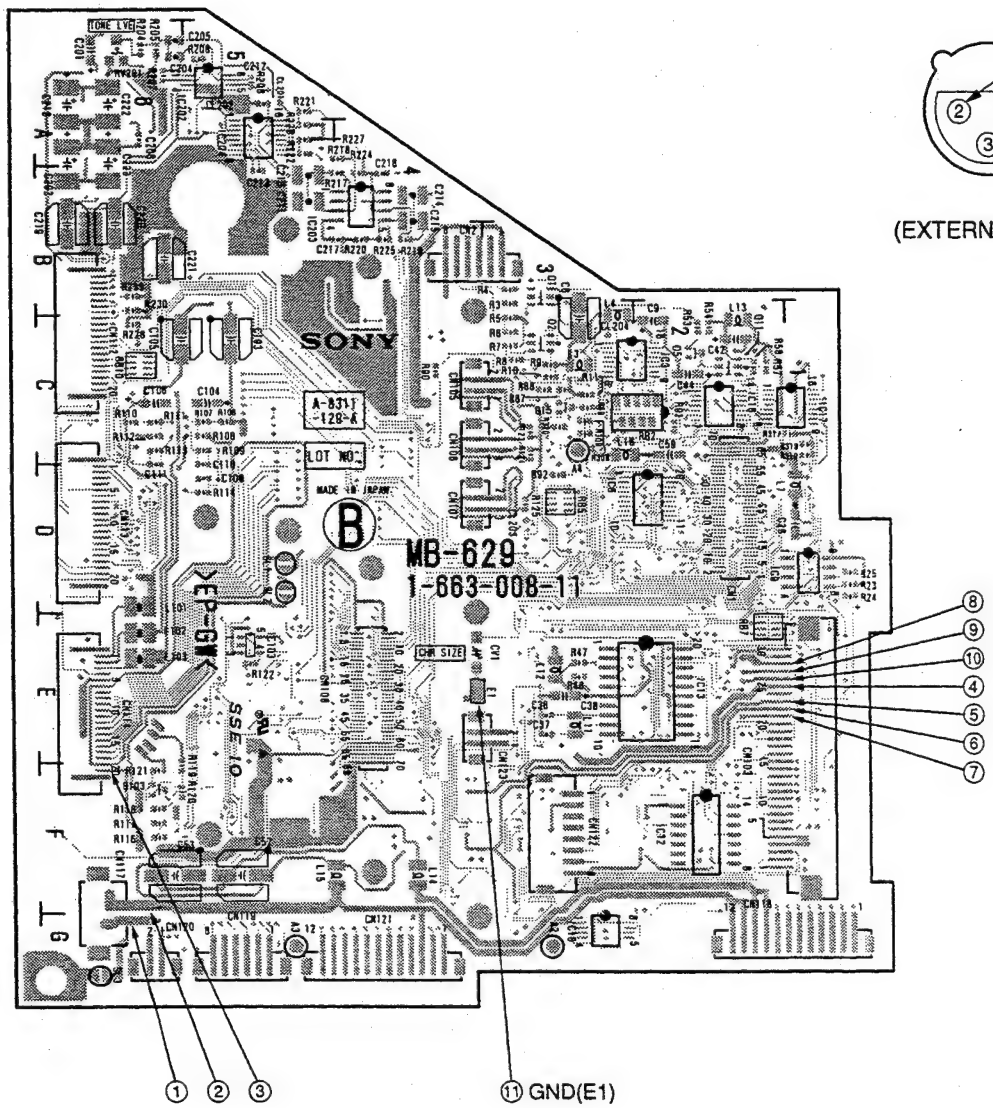
1. Slide the IC Socket cover in the A-arrow direction untill the click is heard. Remove the IC socket cover and the former ROM.
2. Attach the new ROM on the IC socket.
3. Place the IC socket cover to have the clearance between ROM and A-arrow side of IC socket cover. (Refer to Fig.1.)
4. Slide the IC Socket cover in the opposide A-arrow direction with holding the ROM.



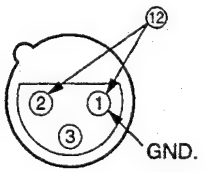
2-6. DC-DC CONVERTER VOLTAGE

Voltage values can be check as following ① to ⑫ points on MB-629 board and MIC connector.

• MB-629 board



• MIC connector



(EXTERNAL VIEW)

No.	CHECK POINT	VOLTAGE VALUE
①	CN117-2pin	5WD EXT. DC OUT
②	CN117-1pin	EXT. DC GND
③	CN114-20pin	+3.1 V
④	CN103-25pin	+5.3 V
⑤	CN103-23pin	-5 V
⑥	CN103-22pin	+9 V

No.	CHECK POINT	VOLTAGE VALUE
⑦	CN103-21pin	-10 V
⑧	CN103-28pin	+6.5 V
⑨	CN103-27pin	+16 V
⑩	CN103-26pin	+32 V
⑪	E1(GND)	---
⑫	MIC 2pin/1pin(GND)	+48 V

2-7. SERVICE MODE OPERATION

- **SERVICE mode:**

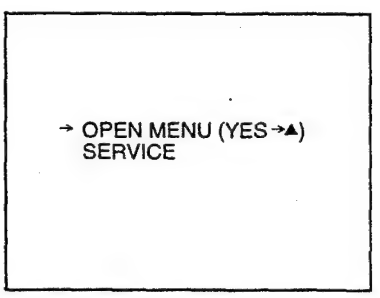
  Commonly, user can operate the BASIC menu and ADVANCE menu. In addition to these menu, service engineer can operate the SERVICE menu.

  To enter the service mode by adjusting S105 (OPE↔ADJ) on the SW-791 board.

- **Menu screen:**

  When the S105 on the SW-791 board is set to ADJ, following menu select screen is appeared.

Menu select screen



Move the cursol to menu item by STATUS / MENU switch, select the menu by UP ▲ switch or DOWN ▼ switch. (The menu is cyclically changed to SERVICE ↔ BASIC ↔ ADVANCE ↔ SERVICE.) To enter the "SERVICE" menu, perform as follows.

① Select the "SERVICE" by UP ▲ switch or DOWN ▼ switch.
② Move the cursol to "OPEN MENU (yes→▲)" by STATUS / MENU switch.
③ Push the UP ▲ switch. Then, the "Page" of menu is displayed.

After performing the page of each menu, normally, the operation is performed the menu. when quitting the each menu, the screen is returned to the Menu Select Screen.

- **Connection:**

The menu screen is ensured by seen the viewfinder or MONITOR OUT of DXC-D30 (for NTSC) or DXC-D30P (for PAL).

- **RESET object item and standard set value for setting (Table 1)**

PAGE	ITEM	Standard set value	
		UC	PAL
4	MPKNEE1	67	←
	MPKNEE2	116	←
	MPKNEE3	164	←
	MPKNEE4	255	←
	RPKNEE	128	←
	BPKNEE	128	←
9 (NTSC)	SET UP	ON	---
	RESD OUT	FD	---
	BLKG	20	---
	MAT DEST	SMPTE	---
9 (PAL)	COMP LVL	---	525
	READ OUT	---	FD
13	GAMMA	ON	←
	MATRIX	ON	←
	DTL	ON	←
	APT	ON	←
	YWCLP	255	←
	IRIS GAIN	128	←
14	R TTL	75	←
	G TTL	75	←
	B TTL	75	←
	R TTLB	0	←
	G TTLB	0	←
	B TTLB	0	←
15	LL ADJ	95	125
	PKAVECOM	128	←
	IRISMARK	128	←
	MGAM ADJ	132	132
	RGAM ADJ	±0	←
	BGAM ADJ	±0	←
	MBLK ADJ	2068	2070
16	R.KNEE S	±0	←
	B.KNEE S	±0	←
	R.KNEE P	±0	←
	B.KNEE P	±0	←
17	FILTER	2	2
22	COND IND	OFF	←

• Page 1 RESET

(for NTSC)

```
→PAGE 1 (NEXT→▼ PREV→▲)

RESET
    (YES→▲)
DEST : UC

EXIT MENU (YES→▲)
```

(for PAL)

```
→PAGE 1 (NEXT→▼ PREV→▲)

RESET
    (YES→▲)

EXIT MENU (YES→▲)
```

The "RESET" mode is set to standard set value except each board adjustment values or differential adjustment values by each unit. (Refer to table 1)

* In the NTSC, move the cursol to "DEST", select UC, then move the cursol to "RESET", and push UP ▲ switch.

• Page 2 Shanding Correction

```
PAGE 2 (NEXT→▼ PREV→▲)

A SHAD
    (YES →▲)
 R SHAD  :  118
 G SHAD  :  135
 B SHAD  :  123

EXIT MENU (YES→▲)
```

A SHAD (This is not functioned)

R SHAD / G SHAD / B SHAD

Shading correction of V
Standard (correction 0) = 128
Shoot the white portion of pattern box, adjust the UP ▲ switch or DOWN ▼ switch so that the waveform is flat on the oscilloscope with VD period.

VA-169 board	Test point
	CL101 (Rch)
	CL201 (Gch)
	CL301 (Bch)

• Page 3 Flare Adjustment

```
PAGE 3 (NEXT →▼ PREV →▲)

 R FLARE  :  0
 G FLARE  :  0
 B FLARE  :  0

EXIT MENU (YES →▲)
```

R FLARE / G FLARE / B FLARE

Flare correction
(Not corrected at 0)

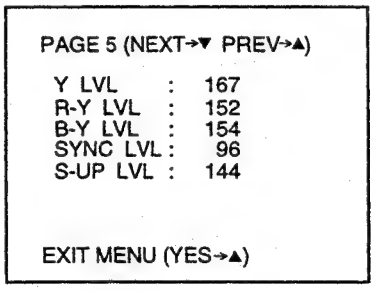
Regarding the adjustment, see the "SECTION 3 ALIGNMENT"

• Page 4 Pre Knee Setting

```
PAGE 4 (NEXT→▼ PREV→▲)

 MPKNEE 1 :   67
 MPKNEE 2 :  116
 MPKNEE 3 :  164
 MPKNEE 4 :  255
 RPKNEE   :  128
 BPKNEE   :  128

EXIT MENU (YES →▲)
```

		Standard value
MPKNEE1	Usual Master Pre Knee Point (D range 600%)	:67
MPKNEE2	Master Pre Knee point at -3dB gain (D range 425%)	:116
MPKNEE3	Master Pre Knee point at FM mode (D range 300%)	:164
MPKNEE4	Master Pre Knee point at -3dB gain and FM mode (D range 212%)	:255
RPKNEE	Rch Pre Knee Point fine Adjustment	: 128
BPKNEE	Rch Pre Knee Point fine Adjustment	: 128

• Page 5 Component Level Adjustment

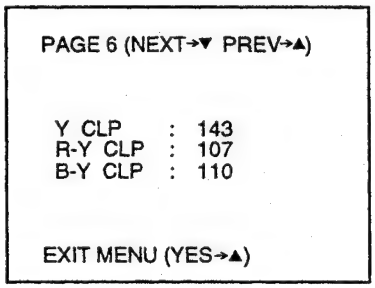


- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to IF-532 board.

		Measurement Point
Y LVL	Level adjustment of Y	EX board :TP-61
R-Y LVL	Level adjustment of R-Y	EX board :TP-60
B-Y LVL	Level adjustment of B-Y	EX board :TP-62
SYNC LVL	Level adjustment of SYNC	EX board :TP-61
S-UP LVL	Level adjustment of SETUP	EX board :TP-61

The adjustment is available when the unit is setup ON in the NTSC mode.

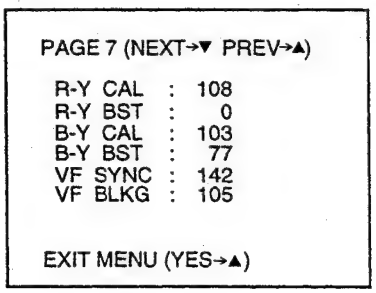
• Page 6 CLP Level Adjustment



- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to IF-532 board.

		Measurement Point
Y CLP	CLP Level adjustment of Y	EX board :TP-61
R-Y CLP	CLP Level adjustment of R-Y	EX board :TP-60
B-Y CLP	CLP Level adjustment of B-Y	EX board :TP-62

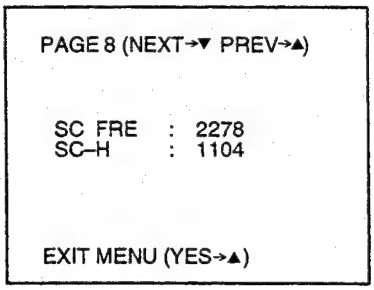
• Page 7 Chroma/VF Adjustment



- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to ES-12 board.

		Measurement Point
R-Y CAL	Carrier balance adjustment of R-Y	VBS OUT
R-Y BST	Burst level adjustment of R-Y direction	VBS OUT
B-Y CAL	Carrier balance adjustment of B-Y	VBS OUT
B-Y BST	Burst level adjustment of B-Y direction	VBS OUT
VF SYNC	Sync level adjustment of VF video	EX board :TP-82
VF BLKG	BLKG level adjustment of VF video	EX board :TP-82

• Page 8 SC adjustment



		Measurement Point
SC FREQ	SC frequency adjustment	ES board :TP-501
SC-H	SC-H adjustment	VBS OUT

- **Page 9 Various kinds items setting 1**

(for NTSC)

```
PAGE 9 (NEXT→▼ PREV→▲)

  SETUP    :  ON
  READ OUT:  FD
  BLKG     :  20
  MAT DEST:  SMPTE

EXIT MENU (YES→▲)
```

(for PAL)

```
PAGE 9 (NEXT→▼ PREV→▲)

  COMP LVL:  525
  READ OUT:  FD

EXIT MENU (YES→▲)
```

(for NTSC)		Standard value
SETUP	ON / OFF of SETUP	: ON
READOUT	FD reading out / FM reading out change	: FD
BLKG	BLKG width setting (19/20/21H)	: 20
MAT DEST	Matrix destination setting (EBU/SMPTE)	: SMPTE

(for PAL)		Standard value
COMP LVL	Color differential output 525 / 700 change	:525
READOUT	FD reading out / FM reading out change	:FD

- **Page 10 TEST MODE**

```
PAGE10(NEXT→▼ PREV→▲)

  TEST  :  OFF
  R-Y   :  ON
  B-Y   :  ON

EXIT MENU (YES→▲)
```

TEST	ON / OFF of TEST SAW
	TEST:1 TEST SAW of 100%
	TEST:2 TEST SAW of 226%
	TEST:3 TEST SAW of 226% at lower side of screen
R-Y	ON / OFF of R-Y output
B-Y	ON / OFF of B-Y output

- **Page 11 HEAD BLOCK No. information**

```
PAGE11(NEXT→▼ PREV→▲)

  HEAD 1  :  G
  HEAD 2  :  V
  HEAD 3  :  0
  HEAD 4  :  0
  HEAD 5  :  0
  HEAD 6  :  4
  HEAD 7  :  6

EXIT MENU (YES→▲)
```

HEAD 1 ~ 7 BLOCK No.

When replacing the TG-175 board or EEPROM (IC1) on the TG-175 board, input the BLOCK No. label which is put on the side of the CCD UNIT.

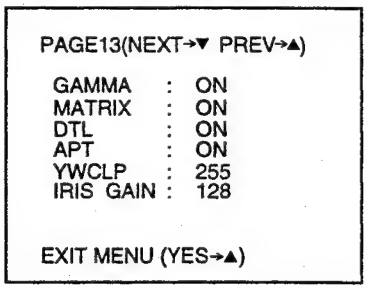
Input method: The BLOCK No. is inputted by UP ▲ switch or DOWN ▼ switch.

- **Page 12 RG, SUB communication**

```
PAGE12(NEXT→▼ PREV→▲)

  R RG    :  21
  G RG    :  74
  B RG    :  21
  R SUB   :  78
  G SUB   :  85
  B SUB   :  78
  TPC     :  +30

EXIT MENU (YES→▲)
```

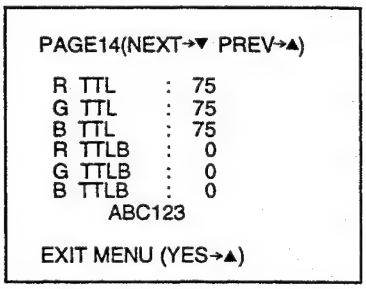
Note :This value is changed by each unit. The numerical value is not changed. According to this, when replacing the TG-175 board or EEPROM (IC1) on the TG-175 board, the reset is needed. Contact your authorized Sony dealer.

- **Page 13 Various items setting 2**



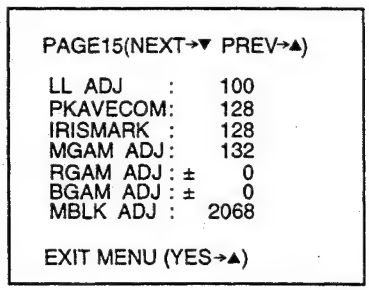
		Standard value
GAMMA	ON / OFF of GAMMA	:ON
MATRIX	ON / OFF of MATRIX	:ON
DTL	ON / OFF of DETAIL	:ON
APT	ON / OFF of APERTURE	:ON
YWCLP	Y WHITE CLP level setting	:255
IRIS GAIN	IRIS GAIN setting	:128

- **Page 14 TITLE Color setting**



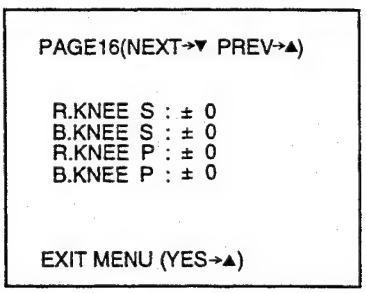
		Standard value
R TTL	R level of TITLE (0/25/50/75)	:75
G TTL	G level of TITLE (0/25/50/75)	:75
B TTL	B level of TITLE (0/25/50/75)	:75
R TTLB	TITLE edge emphasis of R level (0/25/50/75)	:0
G TTLB	TITLE edge emphasis of G level (0/25/50/75)	:0
B TTLB	TITLE edge emphasis of b level (0/25/50/75)	:0
ABC123	Indication for actual TITLE color ensuring	

- **Page 15 Various items setting 3**



		Standard value
LL ADJ	Level setting for LL IND	:100
PKAVECOM	Peak-AVE ratio setting of AUTO Iris	:128
IRIS MARK	Object value setting of AUTO Iris	:128
MGAMADJ	Standard value setting of Master GAMMA	:132
RGAMADJ	GAMMA offset setting of Rch	:±0
BGAMADJ	GAMMA offset setting of Bch	:±0
MBLKADJ	Standard value setting of Master BLACK	:2068 (NTSC) :2070 (PAL)

- **Page 16 KNEE setting 3 (not in used)**



- **Page 17 Various setting 4**

```
PAGE17(NEXT→▼ PREV→▲)

 ATW ADJ : AUTO(YES→▲)
       R : 126
       B : 134
 MIC ADJ : 89
 FILTER  :  2

EXIT MENU (YES→▲)
```

ATW ADJ	Take in standard value of ATW
R	Standard value setting of ATW
B	Standard value setting of ATW
MIC ADJ	Setting of a musical note mark indication
FILTER	Destination setting of filter (standard:2)

Note : When performing the ATW ADJ, the light that has correctly color temperature of 3200K must be needed. Therefore, do not touch the ATW ADJ.

- **Page 18~21 Diagnosis relation**

The supplement will be issued later on these items.

- **Page 22 Present unit condition indication**

```
PAGE22(NEXT→▼ PREV→▲)

COND IND  : OFF
POWER     : 12.1V
TIS       : 224h
R GAIN    : 7e6h
B GAIN    : 800h
IRIS POS  : 000h
KWC       : 000h

EXIT MENU (YES→▲)
```

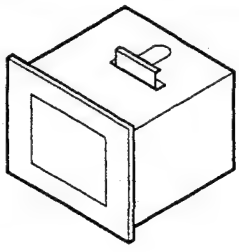
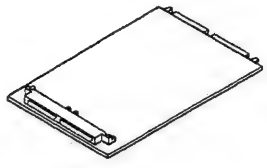
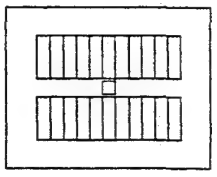
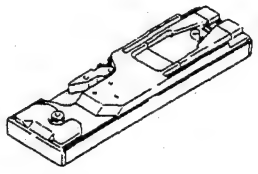
This is the communication of the production.
This is not related to service.

SECTION 3
ALIGNMENT

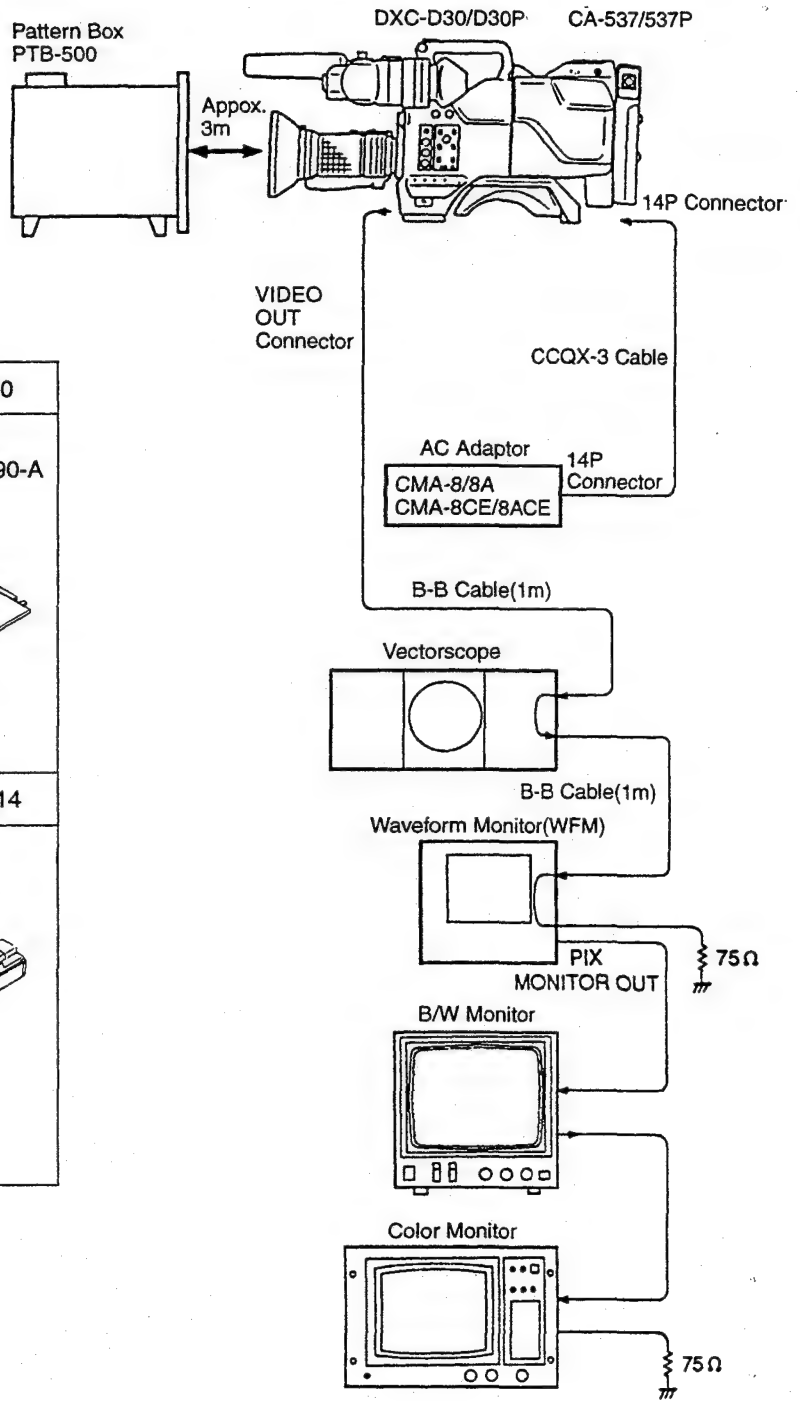
3-1. PREPARATION

3-1-1. Equipment Required

- Digital voltmeter
- Oscilloscope (100 MHz or more)
- Vectorscope
- Waveform monitor
- B/W monitor (Sony PVM-91/122 or equivalent)
- Color monitor (Sony PVM-1320 or equivalent)
- AC Adaptor (Sony CMA-8/8A/8CE/8ACE)
- Camera Adaptor (Sony CA-537/537P)
- Frequency counter
- SC-H Phase Equipment

Pattern box PTB-500	extension board EX-490
Sony part number: J-6029-140-B • Light source for test chart 	Sony part number: J-6275-690-A 
Grayscale chart	Tripod Adaptor VCT-U14
Sony part number: J-6026-130-B 	

3-1-2. Connection



3-1-3. Switch Setting Before Adjustment

[DXC-D30, DXC-D30P]

Switch setting for camera side

GAIN switch	: 0 dB
OUTPUT/DL/DCC + switch	: CAM/DCC +
WHITE BAL switch	: PRESET
FILTER control	: 1
SHUTTER switch	: OFF
ZEBRA switch	: OFF
MARKER switch	: OFF
HYPER GAIN switch	: OFF
SET UP switch	: STD
EZ MODE switch	: OFF
IRIS (Lens)	: Manual
ZOOM (Lens)	: Manual

[CA-537, CA-537P]

S1 switch (IF-313 board) : AUTO (Center position)

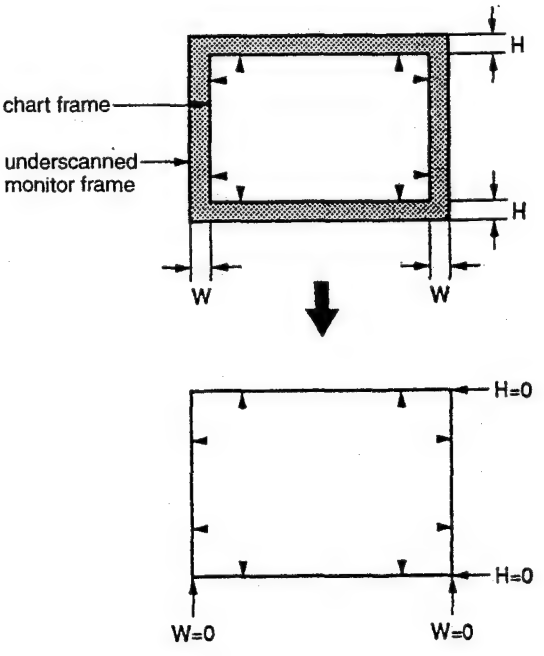
3-1-4. Notes on Adjustment

Note:

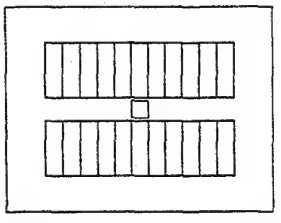
(1) Before adjustment, be sure to allow for 10-minute warm-up time.

(2) When using the SERVICE menu, refer to "2-7. SERVICE MODE OPERATION".

(3) Unless otherwise specified, the sentence "chart frame = underscanned monitor frame" is written about the shooting condition.
In this case, make sure that the lens is best focused. Then adjust the zoom control of the lens so that the chart frame touches the underscanned monitor frame.



In case of the Grayscale chart:



(underscanned monitor screen)

(4) When replacing the CCD unit, be sure to perform the following adjustment items.
  3-3-12. Pedestal Adjustment
  3-3-13. Shading Adjustment
  3-3-14. Flare Adjustment

(5) If the amplitude level of the measured waveform is blurred on the waveform monitor screen, set the RESPONSE switch on the waveform monitor to "LUM" mode.

3-1-5. Adjustment Item

3-2. Before Adjustment
  3-2-1. Color Bar Signal Confirmation
  3-2-2. Sensitivity Measurement Confirmation
3-3. Camera Adjustment
  3-3-1. Sub-Carrier Frequency Adjustment
  3-3-2. INT SC-H Phase Adjustment
  3-3-3. Y/R-Y/B-Y CLP Level Adjustment
  3-3-4. Y/SYNC/R-Y/B-Y Level Adjustment
  3-3-5. Carrier Balance Adjustment
  3-3-6. Chroma (VBS) Level Adjustment
  3-3-7. Y (VBS) Level Adjustment
  3-3-8. Y (YC) Level Adjustment
  3-3-9. Chroma (YC) Level Adjustment
  3-3-10. VF SYNC/BLKG Level Adjustment
  3-3-11. CCD Output Level Adjustment
  3-3-12. Pedestal Adjustment
  3-3-13. Shading Adjustment
  3-3-14. Flare Adjustment
  3-3-15. MIC LEVEL/MIC Level IND Adjustment

3-2. BEFORE ADJUSTMENT

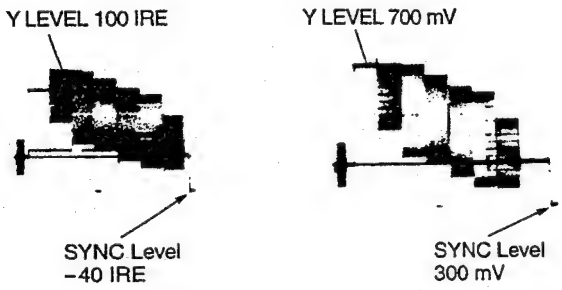
Note:

1. Before adjustment, connect the equipments referring to "3-1-2. Connection".
2. Before adjustment, Turn on POWER switch and allow for 10-minute warm-up time.

3-2-1. Color Bar Signal Confirmation

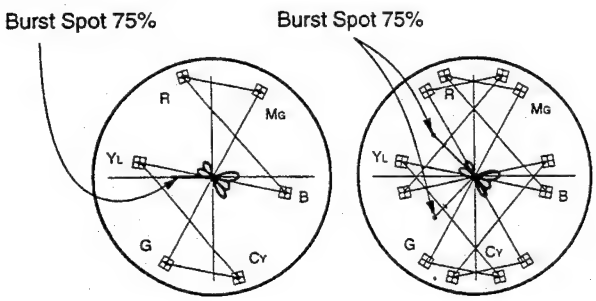
Equipment: Vectorscope, Waveform monitor
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Test point: VIDEO OUT connector/camera side
Specification:

[for NTSC] **[for PAL]**



- Chroma Level
  Confirm that the beam spots of each color (R, YL, G, CY, G, B and MG) are inside the "⊞" mark.

[for NTSC] **[for PAL]**



Note:

- Partial difference between scale and signal level is caused by photographic error.
- If the specifications are not met, carry out from "3-3-2. INT SC Phase Adjustment" through "3-3-9. Chroma (YC) Level Adjustment".

3-2-2. Sensitivity Measurement Confirmation

Object: Overall white
Light: 3200K, 2000 lux
(If the pattern box is used, set the AUTO mode)

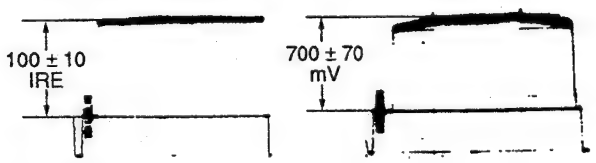
Preparation:

1. Ajust the zoom control at "TELE" so that the white pattern frame matches the underscanned picture frame on the screen.
2. Lens iris → F11
3. OUTPUT/DL/DCC + switch/camera side → CAM
4. WHITE BAL switch/camera side → PRESET

Equipment: Waveform monitor

Specification: 100 ± 10 IRE (for NTSC)
700 ± 70 mV (for PAL)

[for NTSC] **[for PAL]**



Note:
If the specification is not met, perform "3-3-11. CCD OUT Level Adjustment".

3-3. CAMERA ADJUSTMENT

Note Before the adjustment, enter the "PAGE 1" of SERVICE menu, and perform the "RESET".

3-3-1. Sub-Carrier Frequency Adjustment

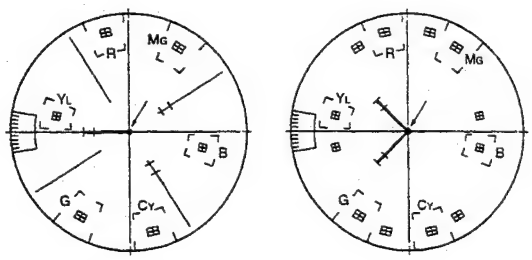
Equipment: Frequency counter
To be extended: ES-12 board
Test point: TP501 (GND: E1(extension board))
/ES-12 board
Adjusting point: SERVICE menu "PAGE 8"
→ SC FREQ :
Adjust the sub-Carrier Frequency by UP ▲ switch or DOWN ▼ switch.
Specification: 3,579,545 ± 10 Hz (for NTSC)
4,433,618 ± 10 Hz (for PAL)

3-3-2. INT SC-H Phase Adjustment

Note:
Stated below is a procedure with the SC-H phase measuring equipment (Tektronix Waveform monitor 1765).
If any other equipment is used, perform adjustment at the following adjustment point by reading the instruction manual attached.

Equipment: Waveform monitor (SC-H Phase mode)
Preparation:
- Put the Tektronix Waveform monitor 1765 to SC-H mode.

Test point: VIDEO OUTconnector/camera side
Adjustment Procedure
- SERVICE menu "PAGE 8"
→ SC-H
- Adjust the phase relationship between SC (Burst) and H beam spot correctly by UP ▲ switch or DOWN ▼ switch.



[for NTSC] **[for PAL]**

Note:
After this adjustment, set the mode of Tektronix Waveform monitor 1765 to "WFM" mode.

3-3-3. Y/R-Y/B-Y CLP Level Adjustment

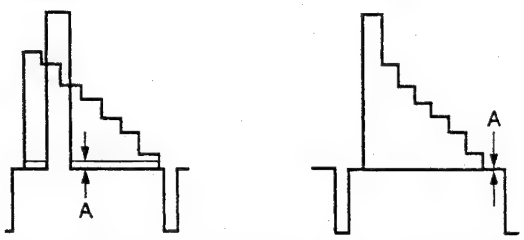
Equipment: Oscilloscope
To be extended: IF-532 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Trigger: HD (TP83/extension board)

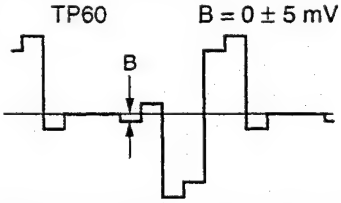
Adjustment Procedure:
1. Select "PAGE 10" of SERVICE menu, make sure that R-Y and B-Y mode must be "ON".
2. SERVICE menu "PAGE 6"
→ Y CLP :
R-Y CLP :
B-Y CLP :
3. Adjust the following items by UP ▲ switch or DOWN ▼ switch.
Note: In case of Y CLP for NTSC model, perform the adjustment as follows.
① Select "PAGE 9" of SERVICE menu, and set the "SETUP" to "OFF".
② Select "PAGE 6" of SERVICE menu, and move the cursol to Y CLP.
③ Adjustment: A = 0 ± 5 mV
④ Select "PAGE 9" of SERVICE menu, and set the "SETUP" to "ON".
⑤ And return to "PAGE 6".

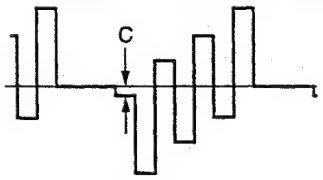
Extension board (GND : TP63/IF-532 board)

Item	Test Point	Specification
Y CLP	TP61	A = 0 ± 5 mV
R-Y CLP	TP60	B = 0 ± 5 mV
B-Y CLP	TP62	C = 0 ± 5 mV

(NTSC) (PAL)





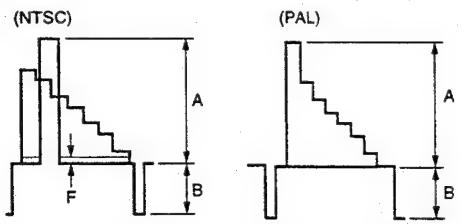
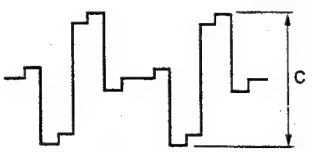
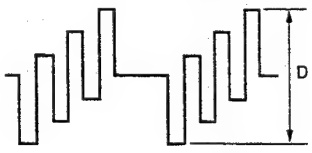


3-3-4. Y/SYNC/R-Y/B-Y Level Adjustment

Equipment: Oscilloscope
To be extended: IF-532 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Trigger: HD (TP83/extension board)
Adjustment Procedure:

1. Select "PAGE 10" of SERVICE menu, make sure that R-Y and B-Y mode must be "ON".
2. SERVICE menu "PAGE 5"
   → Y LVL :
   R-Y LVL :
   B-Y LVL :
   SYNC LVL :
   S-UP LVL :
3. Adjust the following items by UP ▲ switch or DOWN ▼ switch.
   Note: In case of Y LVL for NTSC model, perform the adjustment as follows.
   ① Move the cursol to Y LVL.
   ② Adjust the "A" of Y LVL level.
   ③ Move the cursol to S-UP LVL, and adjust the "F" of setup level.
   ④ Repeat item ① through ③ several times.

Extension board (GND : TP63/IF-532 board)

Item	Test Point	Specification
Y LVL	TP61	NTSC : A = 714 ±10 mV F = 54 ± 5 mV PAL : A = 700 ±10 mV
SYNC LVL	TP61	NTSC : B = 286 ± 5 mV PAL : B = 300 ± 5 mV
		(NTSC) (PAL) 
R-Y LVL	TP60	NTSC : 700 ± 20 mV PAL : 525 ± 20 mV
		
B-Y LVL	TP62	NTSC : 700 ± 20 mV PAL : 525 ± 20 mV
		

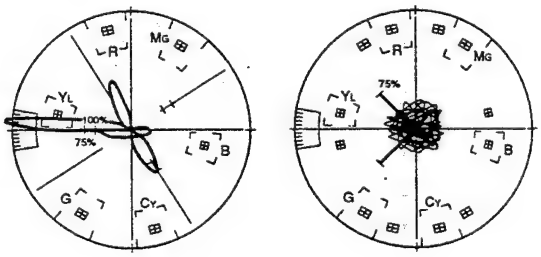
3-3-5. Carrier Balance Adjustment

Equipment: Verctorscope (MAX GAIN)
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Test point: VIDEO OUT connector/camera side

Adjusting point:

1. SERVICE menu "PAGE 7"
   → R-Y CAL :
   B-Y CAL :
2. Move the cursol to R-Y CAL or B-Y CAL with STATUS/MENU switch, and adjust the UP ▲ switch or DOWN ▼ switch so that the beam spot is in the center of the vectorscope.

[for NTSC] [for PAL]



3-3-6. Chroma (VBS) Level Adjustment

Equipment: Verctorscope
To be extended: ES-12 board
Preparation:
- GAIN switch/Verctorscope → 75% CAL
- Adjust the PHASE control on the vectorscope so that the burst spot is overlapped to the 75% axis.
- OUTPUT/DL/DCC + switch/camera side → BARS

Test point: VIDEO OUT connector/camera side

Adjustment Procedure:

1. [for NTSC]
   - SERVICE menu "PAGE 7"
     → B-Y BST :

     Note: In case of NTSC, make sure that "R-Y BST" must be "0".

   - Adjust the UP ▲ switch or DOWN ▼ switch so that burst spot is located at 75% scale mark on the vectorscope screen.

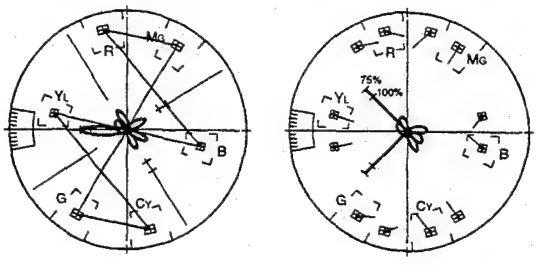
   [for PAL]
   - SERVICE menu "PAGE 7"
     → R-Y BST :
     B-Y BST :

   - Adjust "R-Y BST" and "B-Y BST" alternately by UP ▲ switch or DOWN ▼ switch so that burst spot is located at 75% scale mark on the vectorscope screen.

2. Adjust the following controls alternately so that each beam spot stays inside the reference frame"⊞".
   ⊘RV503 (B-Y LEV)/ES-12 board
   ⊘FL502 (PHASE)/ES-12 board
   ⊘RV504 (CHROMA VBS LEV)/ ES-12 board

3. Then, perform above procedure item 1 again.

[for NTSC] **[for PAL]**



3-3-7. Y (VBS) Level Adjustment

Equipment: Waveform monitor
To be extended: ES-12 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Test point: VIDEO OUT connector/camera side

Adjustment Procedure

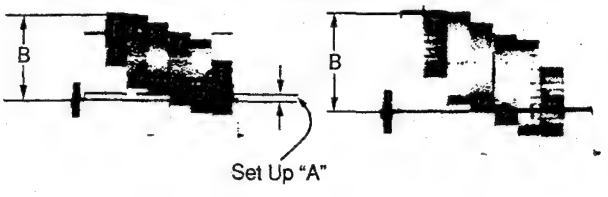
1. [for NTSC]
   - SERVICE menu "PAGE 9"
     → SET UP : ON
     MAT DEST : SMPTE

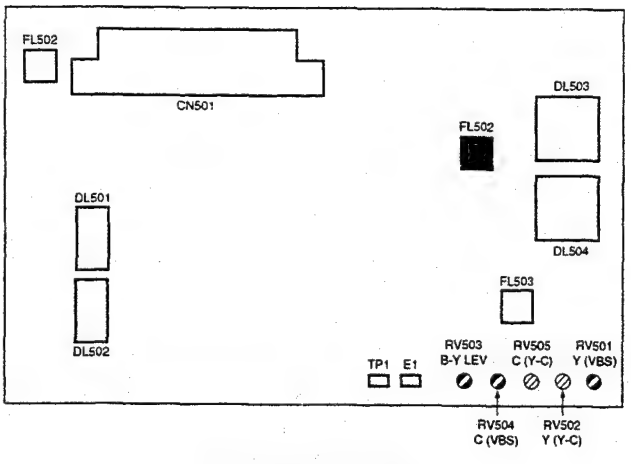
   - SERVICE menu "PAGE 5"
     → S-UP LVL :
     Adjust the UP ▲ switch or DOWN ▼ switch.
     Specification : A = 7.5 ± 0.5 IRE (See below waveform)

   [for PAL]
   - SERVICE menu "PAGE 9"
     → COMP LVL : 525 (not 700)

2. **Adjusting point:** ⊘RV501 (Y LEVEL)/ES-12 board
   Specification: [for NTSC] B = 100 ± 2 IRE
   [for PAL] B = 700 ± 10 mV

[for NTSC] **[for PAL]**





ES-12 BOARD -A SIDE-

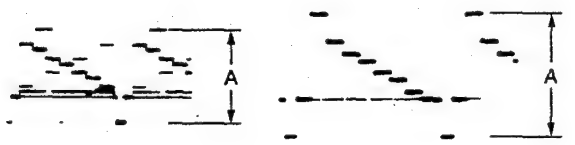
3-3-8. Y (YC) Level Adjustment

Note:
Be sure that "3-3-7. Y (VBS) Adjustment" is completed.

Equipment: Oscilloscope
To be extended: ES-12 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Test point: TP66 (GND: TP67)/extension board
Trigger: HD (TP84/extension board)

Adjusting point: ⊘RV502 (Y LEVEL)/ES-12 board
Specification: [for NTSC] A = 1.00 ± 0.02 V
[for PAL] A = 1.00 ± 0.02 V

[for NTSC] **[for PAL]**

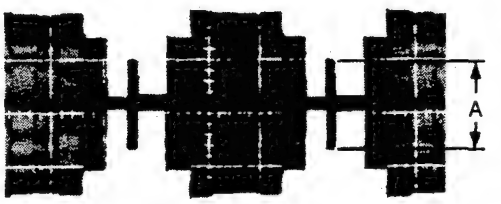


3-3-9. Chroma (YC) Level Adjustment

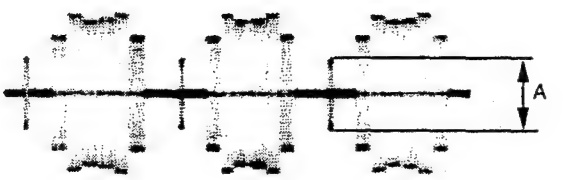
Equipment: Oscilloscope
To be extended: ES-12 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Test point: TP64 (GND: TP65)/extension board
Trigger: HD (TP84/extension board)

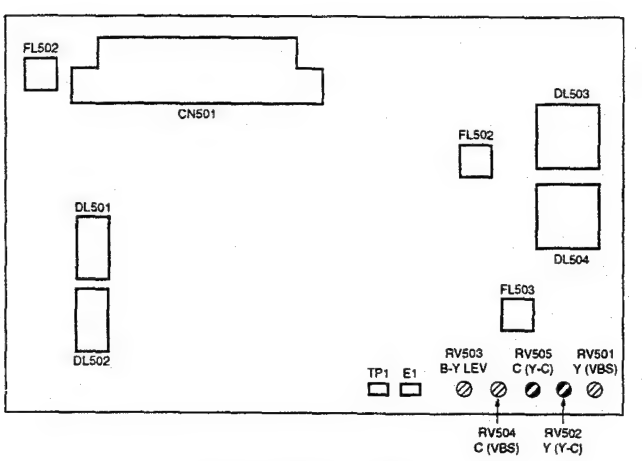
Adjusting point: ⊘RV505 (CHROMA (YC) LEV)/ES-12 board
Specification: [for NTSC] A = 286 ± 10 mV
[for PAL] A = 300 ± 10 mV

[for NTSC]



[for PAL]





ES-12 BOARD -A SIDE-

3-3-10. VF SYNC/BLKG Level Adjustment

Equipment: Oscilloscope
To be extended: ES-12 board
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS
Trigger: HD (TP84/extension board)

Adjustment Procedure

1. SERVICE menu "PAGE 7"
   VF SYNC
   → VF BLKG

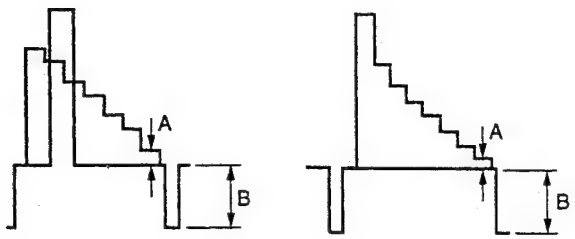
   Note: For the adjustment procedure, at the first "VF BLKG" adjustment is done, and next, "VF SYNC" adjustment is done.

2. Adjust the following items by UP ▲ switch or DOWN ▼ switch.

Extension board (GND : TP81/ES-12 board)

Item	Test Point	Specification
VF BLKG	TP82	NTSC : A = 50 ± 10 mV PAL : A = 50 ± 10 mV
VF SYNC	TP82	NTSC : B = 286 ± 10 mV PAL : B = 300 ± 10 mV

[for NTSC] **[for PAL]**



3-3-11. CCD Output Level Adjustment

Note :

- Use a reflection type with chart for this adjustment, therefore, control the light so that the white area of chart is exactly 3200K of color temperature.
- If use the pattern box, make sure that the color temperature must be 3200K.
- Usually, this adjustment is not required.
  Only when the output level of CCD unit is large different from the specification.
- When the new CCD unit of spare parts is replaced, this adjustment is not required because of the correct adjustment at the factory.

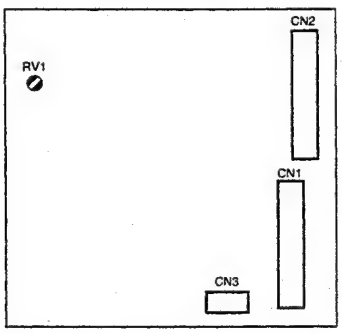
Object: Grayascale chart
Equipment: Oscilloscope
To be extended: VA-169 board
Preparation:

- OUTPUT/DL/DCC + switch/camera side → CAM
- WHITE BAL switch : PRESET
- Chart frame = Underscanned monitor frame
- Adjust the lens iris so that the video level at TP27/extension board (VA-169 board) is 165 ± 5 mV.

Trigger: HD (TP72/extension board)

Adjustment Procedure

1. Test point: TP15/extension board (VA-169 board)
   ⊘RV1/PA-187 (B) board
   Specification : A = 165 ± 5 mV
2. Test point: TP21/extension board (VA-169 board)
   ⊘RV1/PA-189 (R) board
   Specification : A = 165 ± 5 mV



PA-187 (B) BOARD - A SIDE -
PA-189 (R) BOARD - A SIDE -

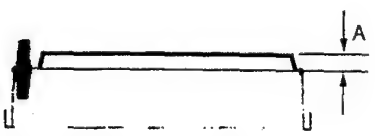
3-3-12. Pedestal Adjustment

Equipment: *Waveform monitor*
Test point: VIDEO OUT/Camera side

Adjustment Procedure

1. SERVICE menu "PAGE 15"
   → MELK ADJ:
2. Close the lens iris.
3. Push down the "W/B" switch on the camera to "BLK" side.
4. Adjust the pedestal level by UP ▲ switch or DOWN ▼ switch.

Specification : A = 10 ± 1 IRE (for NTSC)
20 ± 7 mV (for PAL)



3-3-13. Shading Adjustment

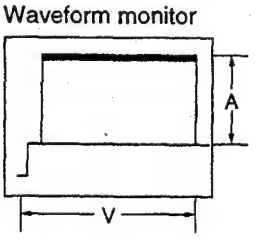
Note :
Perform this adjustment when the lens or CCD unit is replaced.

Object: White portion of pattern box
Equipment: Waveform monitor, Oscilloscope
To be extended: VA-169 board
Trigger: VD (TP73/extension board)

Adjustment Procedure

1. SERVICE menu "PAGE 2"
   → R SHAD:
   G SHAD:
   B SHAD:
2. Shoot the center portion of pattern box by zooming the lens to fully TELE position.
3. Adjust the lens iris so that the level "A" is 70 ± 2 IRE (for PAL: 490 ± 14 mV) on the VIDEO OUT connector of camera.

Waveform monitor



4. In the following mode, adjust the UP ▲ switch or DOWN ▼ switch so that the waveform of the oscilloscope becomes flat.

GND: TP38/extension board

Mode	Test point (VA-169 board)	Spec.
R SHAD	CL101	
G SHAD	CL201	
B SHAD	CL301	

3-3-14. Flare Adjustment

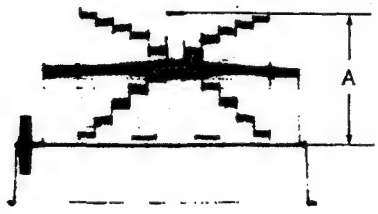
Object: Grayscale chart
Equipment: Waveform monitor

Adjustment Procedure

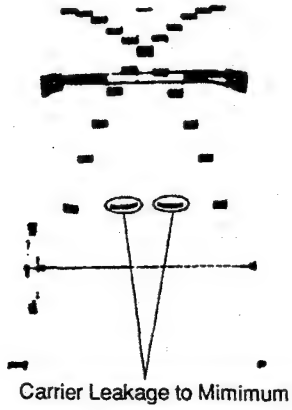
1. SERVICE menu "PAGE 3"
   → R FLARE: x
   G FLARE: 0
   B FLARE: x

   Note: Make sure that "G FLARE" must be "0".

2. Chart frame = Underscanned monitor frame
3. **Test point:** VIDEO OUT connector/camera side
   Adjusting point: Lens iris
   Specification: A = 100 ± 2 IRE (for NTSC)
   700 ± 10 mV (for PAL)



4. Open the lens iris by two steps.
5. Adjust "R FLARE" and "B FLARE" alternately by UP ▲ switch or DOWN ▼ switch so that the carrier leakage level is minimum.



Carrier Leakage to Mimimum

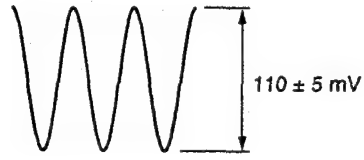
3-3-15. MIC LEVEL/MIC Level IND Adjustment

Equipment: Oscilloscope
Preparation: OUTPUT/DL/DCC + switch/camera side → BARS

Adjustment Procedure

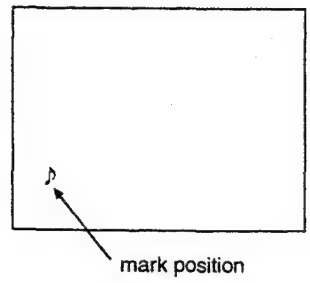
1. **Test point:** CL201/MB-629 board
   (GND: Capacitor, C202 ⊕ side/MB-629 board)

   Adjusting point: ⊘RV201/MB-629 board



2. SERVICE menu "PAGE 17"
   → MIC ADJ :
3. Adjust the DOWN ▼ switch, and stop where the ♪ mark just appears on the monitor screen.
4. Adjust the UP ▲ switch, and step where the ♪ mark just disappears on the monitor screen.
5. And, set the ♪ mark to the value that subtract 5 time from the value by DOWN ▼ switch where the ♪ mark just disappears.

Monitor screen or Viewfinder screen.



SONY

DIGITAL VIDEO CAMERA

DXC-D30/D30P

SERVICE MANUAL

Vol. 1 (1st Edition)

SUPPLEMENT-1

Please replace the following subject with this SUPPLEMENT in your manual.

SUBJECT

•SECTION 2

2-7. SERVICE MODE OPERATION

Power HAD

DXC-D30 (UC)
DXC-D30P (CE)
9-977-263-81

Sony Corporation
Image & Sound Communication Company

1997. 9 08
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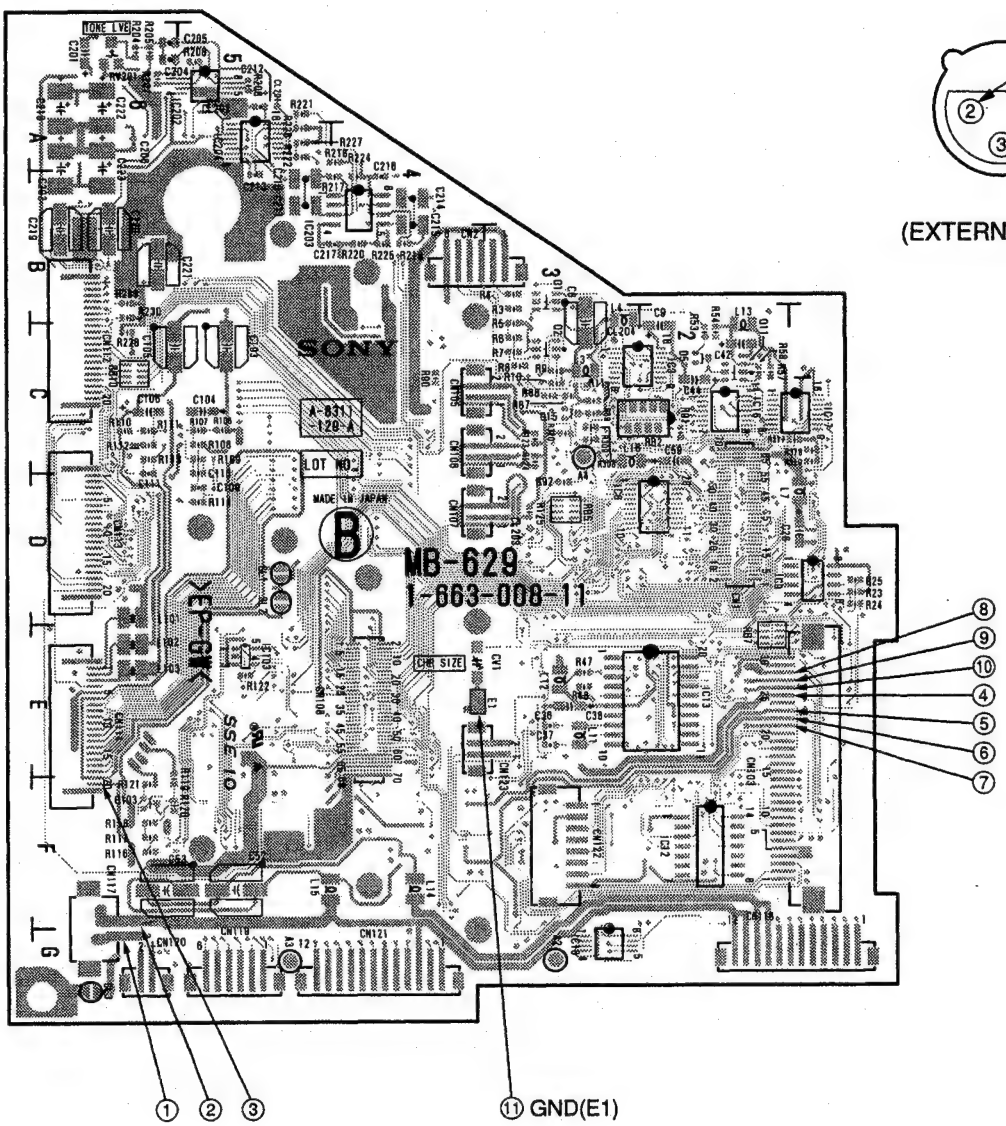
Published by
Engineering Services Dept.

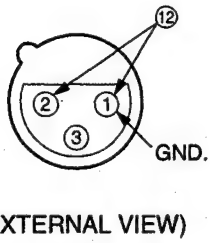
2-6. DC-DC CONVERTER VOLTAGE

Voltage values can be check as following ① to ⑫ points on MB-629 board and MIC connector.

• MB-629 board



• MIC connector



(EXTERNAL VIEW)

No.	CHECK POINT	VOLTAGE VALUE
①	CN117-2pin	5WD EXT. DC OUT
②	CN117-1pin	EXT. DC GND
③	CN114-20pin	+3.1 V
④	CN103-25pin	+5.3 V
⑤	CN103-23pin	-5 V
⑥	CN103-22pin	+9 V

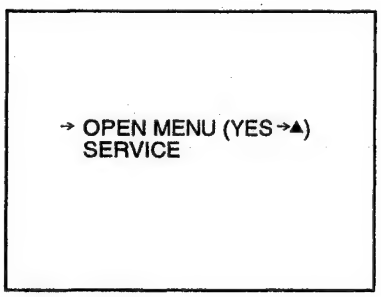
No.	CHECK POINT	VOLTAGE VALUE
⑦	CN103-21pin	-10 V
⑧	CN103-28pin	+6.5 V
⑨	CN103-27pin	+16 V
⑩	CN103-26pin	+32 V
⑪	E1(GND)	---
⑫	MIC 2pin/1pin(GND)	+48 V

2-7. SERVICE MODE OPERATION

- **SERVICE mode:**
  Commonly, user can operate the BASIC menu and ADVANCE menu. In addition to these menu, service engineer can operate the SERVICE menu.
  To enter the service mode by adjusting S105 (OPE↔ADJ) on the SW-791 board.

- **Menu screen:**
  When the S105 on the SW-791 board is set to ADJ, following menu select screen is appeared.

Menu select screen



Move the cursor to menu item by STATUS / MENU switch, select the menu by UP ▲ switch or DOWN ▼ switch. (The menu is cyclically changed to SERVICE ↔ BASIC ↔ ADVANCE ↔ SERVICE.) To enter the "SERVICE" menu, perform as follows.

① Select the "SERVICE" by UP ▲ switch or DOWN ▼ switch.
② Move the cursor to "OPEN MENU (yes→▲)" by STATUS / MENU switch.
③ Push the UP ▲ switch. Then, the "Page" of menu is displayed.

After performing the page of each menu, normally, the operation is performed the menu. When quitting the each menu, the screen is returned to the Menu Select Screen.

- **Connection:**

The menu screen is ensured by seen the viewfinder or MONITOR OUT of DXC-D30 (for NTSC) or DXC-D30P (for PAL).

- **RESET object item and standard set value for setting (Table 1)**
  The standard set value differs from the version of IC102 on the AT-110 board.

Up to V 1.03

PAGE	ITEM	Standard set value	
		UC	PAL
4	MPKNEE1	67	←
	MPKNEE2	116	←
	MPKNEE3	164	←
	MPKNEE4	255	←
	RPKNEE	128	←
	BPKNEE	128	←
9 (NTSC)	SET UP	ON	---
	RESD OUT	FD	---
	BLKG	20	---
	MAT DEST	SMPTE	---
9 (PAL)	COMP LVL	---	525
	READ OUT	---	FD
13	GAMMA	ON	←
	MATRIX	ON	←
	DTL	ON	←
	APT	ON	←
	YWCLP	255	←
	IRIS GAIN	128	←
14	R TTL	75	←
	G TTL	75	←
	B TTL	75	←
	R TTLB	0	←
	G TTLB	0	←
	B TTLB	0	←
15	LL ADJ	95	125
	PKAVECOM	128	←
	IRISMARK	128	←
	MGAM ADJ	132	132
	RGAM ADJ	±0	←
	BGAM ADJ	±0	←
	MBLK ADJ	2068	2070
16	R.KNEE S	±0	←
	B.KNEE S	±0	←
	R.KNEE P	±0	←
	B.KNEE P	±0	←
17	FILTER	2	2
22	COND IND	OFF	←

V 1.10 and higher

PAGE	ITEM	Standard set value	
		UC	PAL
4	MPKNEE1	67	←
	MPKNEE2	116	←
	MPKNEE3	164	←
	MPKNEE4	255	←
	RPKNEE	128	←
	BPKNEE	128	←
9 (NTSC)	SET UP	ON	---
	RESD OUT	FD	---
	BLKG	20	---
	MAT DEST	SMPTE	---
9 (PAL)	COMP LVL	---	525
	READ OUT	---	FD
13	GAMMA	ON	←
	MATRIX	ON	←
	DTL	ON	←
	APT	ON	←
	YWCLP	255	←
	IRIS GAIN	128	←
14	R TTL	75	←
	G TTL	75	←
	B TTL	75	←
	R TTLB	0	←
	G TTLB	0	←
	B TTLB	0	←
15	LL ADJ	115	155
	PKAVECOM	100	←
	IRISMARK	144	←
	MGAM ADJ	132	132
	RGAM ADJ	±0	←
	BGAM ADJ	±0	←
	MBLK ADJ	2068	2070
16	R.KNEE S	±0	←
	B.KNEE S	±0	←
	R.KNEE P	±0	←
	B.KNEE P	±0	←
17	FILTER	2	2
22	COND IND	OFF	←

• Page 1 RESET

(for NTSC)

```
→PAGE 1 (NEXT→▼ PREV→▲)


 RESET
     (YES→▲)
 DEST : UC


 EXIT MENU (YES→▲)
```

(for PAL)

```
→PAGE 1 (NEXT→▼ PREV→▲)


 RESET
     (YES→▲)


 EXIT MENU (YES→▲)
```

The "RESET" mode is set to standard set value except each board adjustment values or differential adjustment values by each unit. (Refer to table 1)

* In the NTSC, move the cursor to "DEST", select UC, then move the cursor to "RESET", and push UP ▲ switch.

• Page 2 Shanding Correction

```
PAGE 2 (NEXT→▼ PREV→▲)

A SHAD
    (YES →▲)
 R SHAD  :  118
 G SHAD  :  135
 B SHAD  :  123


EXIT MENU (YES→▲)
```

A SHAD (This is not functioned)

R SHAD / G SHAD / B SHAD
Shading correction of V
Standard (correction 0) = 128
Shoot the white portion of pattern box, adjust the UP ▲ switch or DOWN ▼ switch so that the waveform is flat on the oscilloscope with VD period.

VA-169 board	Test point
	CL101 (Rch)
	CL201 (Gch)
	CL301 (Bch)

• Page 3 Flare Adjustment

```
PAGE 3 (NEXT →▼ PREV →▲)


 R FLARE  :  0
 G FLARE  :  0
 B FLARE  :  0


EXIT MENU (YES →▲)
```

R FLARE / G FLARE / B FLARE
Flare correction
(Not corrected at 0)

Regarding the adjustment, see the "SECTION 3 ALIGNMENT"

• Page 4 Pre Knee Setting

```
PAGE 4 (NEXT→▼ PREV→▲)

 MPKNEE 1 :   67
 MPKNEE 2 :  116
 MPKNEE 3 :  164
 MPKNEE 4 :  255
 RPKNEE   :  128
 BPKNEE   :  128


EXIT MENU (YES →▲)
```

		Standard value
MPKNEE1	Usual Master Pre Knee Point (D range 600%)	:67
MPKNEE2	Master Pre Knee point at -3dB gain (D range 425%)	:116
MPKNEE3	Master Pre Knee point at FM mode (D range 300%)	:164
MPKNEE4	Master Pre Knee point at -3dB gain and FM mode (D range 212%)	:255
RPKNEE	Rch Pre Knee Point fine Adjustment	: 128
BPKNEE	Rch Pre Knee Point fine Adjustment	: 128

- **Page 5 Component Level Adjustment**

```
PAGE 5 (NEXT→▼ PREV→▲)

 Y LVL     :  167
 R-Y LVL   :  152
 B-Y LVL   :  154
 SYNC LVL  :   96
 S-UP LVL  :  144


EXIT MENU (YES→▲)
```

- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to IF-532 board.

		Measurement Point
Y LVL	Level adjustment of Y	EX board :TP-61
R-Y LVL	Level adjustment of R-Y	EX board :TP-60
B-Y LVL	Level adjustment of B-Y	EX board :TP-62
SYNC LVL	Level adjustment of SYNC	EX board :TP-61
S-UP LVL	Level adjustment of SETUP	EX board :TP-61

The adjustment is available when the unit is setup ON in the NTSC mode.

- **Page 6 CLP Level Adjustment**

```
PAGE 6 (NEXT→▼ PREV→▲)


 Y CLP     :  143
 R-Y CLP   :  107
 B-Y CLP   :  110


EXIT MENU (YES→▲)
```

- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to IF-532 board.

		Measurement Point
Y CLP	CLP Level adjustment of Y	EX board :TP-61
R-Y CLP	CLP Level adjustment of R-Y	EX board :TP-60
B-Y CLP	CLP Level adjustment of B-Y	EX board :TP-62

- **Page 7 Chroma/VF Adjustment**

```
PAGE 7 (NEXT→▼ PREV→▲)

 R-Y CAL   :  108
 R-Y BST   :    0
 B-Y CAL   :  103
 B-Y BST   :   77
 VF SYNC   :  142
 VF BLKG   :  105


EXIT MENU (YES→▲)
```

- Set the camera main unit to color-bar mode and perform the following adjustments. Use an extension (EX) board to ES-12 board.

		Measurement Point
R-Y CAL	Carrier balance adjustment of R-Y	VBS OUT
R-Y BST	Burst level adjustment of R-Y direction	VBS OUT
B-Y CAL	Carrier balance adjustment of B-Y	VBS OUT
B-Y BST	Burst level adjustment of B-Y direction	VBS OUT
VF SYNC	Sync level adjustment of VF video	EX board :TP-82
VF BLKG	BLKG level adjustment of VF video	EX board :TP-82

- **Page 8 SC adjustment**

```
PAGE 8 (NEXT→▼ PREV→▲)


 SC FRE    :  2278
 SC-H      :  1104


EXIT MENU (YES→▲)
```

		Measurement Point
SC FREQ	SC frequency adjustment	ES board :TP-501
SC-H	SC-H adjustment	VBS OUT

- **Page 9 Various kinds items setting 1**

(for NTSC)

```
PAGE 9 (NEXT→▼ PREV→▲)

  SETUP    :  ON
  READ OUT:  FD
  BLKG     :  20
  MAT DEST:  SMPTE

EXIT MENU (YES→▲)
```

(for PAL)

```
PAGE 9 (NEXT→▼ PREV→▲)

  COMP LVL:  525
  READ OUT:  FD

EXIT MENU (YES→▲)
```

(for NTSC)		Standard value
SETUP	ON / OFF of SETUP	: ON
READOUT	FD reading out / FM reading out change	: FD
BLKG	BLKG width setting (19/20/21H)	: 20
MAT DEST	Matrix destination setting (EBU/SMPTE)	: SMPTE

(for PAL)		Standard value
COMP LVL	Color differential output 525 / 700 change	:525
READOUT	FD reading out / FM reading out change	:FD

- **Page 10 TEST MODE**

```
PAGE10(NEXT→▼ PREV→▲)

  TEST  :  OFF
  R-Y   :  ON
  B-Y   :  ON

EXIT MENU (YES→▲)
```

TEST	ON / OFF of TEST SAW TEST:1 TEST SAW of 100% TEST:2 TEST SAW of 226% TEST:3 TEST SAW of 226% at lower side of screen
R-Y	ON / OFF of R-Y output
B-Y	ON / OFF of B-Y output

- **Page 11 HEAD BLOCK No. information**

```
PAGE11(NEXT→▼ PREV→▲)

  HEAD 1  :  G
  HEAD 2  :  V
  HEAD 3  :  0
  HEAD 4  :  0
  HEAD 5  :  0
  HEAD 6  :  4
  HEAD 7  :  6

EXIT MENU (YES→▲)
```

HEAD 1 ~ 7 BLOCK No.

When replacing the TG-175 board or EEPROM (IC1) on the TG-175 board, input the BLOCK No. label which is put on the side of the CCD UNIT.

Input method: The BLOCK No. is inputted by UP ▲ switch or DOWN ▼ switch.

- **Page 12 RG, SUB communication**

```
PAGE12(NEXT→▼ PREV→▲)

  R RG    :  21
  G RG    :  74
  B RG    :  21
  R SUB   :  78
  G SUB   :  85
  B SUB   :  78
  TPC     :  +30

EXIT MENU (YES→▲)
```

Note :This value is changed by each unit. The numerical value is not changed. According to this, when replacing the TG-175 board or EEPROM (IC1) on the TG-175 board, the reset is needed. Contact your authorized Sony dealer.

- **Page 13 Various items setting 2**

```
PAGE13(NEXT→▼ PREV→▲)

  GAMMA     :  ON
  MATRIX    :  ON
  DTL       :  ON
  APT       :  ON
  YWCLP     :  255
  IRIS GAIN :  128

EXIT MENU (YES→▲)
```

		Standard value
GAMMA	ON / OFF of GAMMA	:ON
MATRIX	ON / OFF of MATRIX	:ON
DTL	ON / OFF of DETAIL	:ON
APT	ON / OFF of APERTURE	:ON
YWCLP	Y WHITE CLP level setting	:255
IRIS GAIN	IRIS GAIN setting	:128

- **Page 14 TITLE Color setting**

```
PAGE14(NEXT→▼ PREV→▲)

  R TTL     :  75
  G TTL     :  75
  B TTL     :  75
  R TTLB    :   0
  G TTLB    :   0
  B TTLB    :   0
       ABC123

EXIT MENU (YES→▲)
```

		Standard value
R TTL	R level of TITLE (0/25/50/75)	:75
G TTL	G level of TITLE (0/25/50/75)	:75
B TTL	B level of TITLE (0/25/50/75)	:75
R TTLB	TITLE edge emphasis of R level (0/25/50/75)	:0
G TTLB	TITLE edge emphasis of G level (0/25/50/75)	:0
B TTLB	TITLE edge emphasis of b level (0/25/50/75)	:0
ABC123	Indication for actual TITLE color ensuring	

- **Page 15 Various items setting 3**

```
PAGE15(NEXT→▼ PREV→▲)

  LL ADJ    :    100
  PKAVECOM  :    128
  IRISMARK  :    128
  MGAM ADJ  :    132
  RGAM ADJ  : ±    0
  BGAM ADJ  : ±    0
  MBLK ADJ  :   2068

EXIT MENU (YES→▲)
```

		Up to V 1.03 Standard value	V 1.10 and higher Standard value
LL ADJ	Level setting for LL IND	:95 (NTSC) :125 (PAL)	:115 (NTSC) :155 (PAL)
PKAVECOM	Peak-AVE ratio setting of AUTO Iris	:128	:100
IRIS MARK	Object value setting of AUTO Iris	:128	:144
MGAMADJ	Standard value setting of Master GAMMA	:132	:132
RGAMADJ	GAMMA offset setting of Rch	:±0	:±0
BGAMADJ	GAMMA offset setting of Bch	:±0	:±0
MBLKADJ	Standard value setting of Master BLACK	:2068 (NTSC) :2070 (PAL)	:2068 (NTSC) :2070 (PAL)

- **Page 16 KNEE setting 3 (not in used)**

```
PAGE16(NEXT→▼ PREV→▲)

  R.KNEE S : ± 0
  B.KNEE S : ± 0
  R.KNEE P : ± 0
  B.KNEE P : ± 0

EXIT MENU (YES→▲)
```

- **Page 17 Various setting 4**

```
PAGE17(NEXT→▼ PREV→▲)

ATW ADJ  : AUTO(YES→▲)
      R  : 126
      B  : 134
MIC ADJ  : 89
FILTER   : 2

EXIT MENU (YES→▲)
```

ATW ADJ Take in standard value of ATW
R Standard value setting of ATW
B Standard value setting of ATW
MIC ADJ Setting of a musical note mark indication
FILTER Destination setting of filter (standard:2)

Note : In ATW ADJ, it is taken in the calculation standard value of color temparature when the AUTO WHITE is carried out, therefore, normally, no adjustment is required.
When the indication value of color temparature is different from the actual value, the CCD OUTPUT level adjustment is required, and then, take in the standard value to the following procedures;
1. Shoot the pattern of 3200 K color temparature.
2. Set WHT BAL switch to "A" position, and perform the AUTO WHITE balance.
3. Move the cursor to "ATW ADJ" by STATUS/MENU switch, and press UP ▲ switch.

- **Page 18 Selfdiagnosis 1**

```
PAGE18(NEXT→▼ PREV→▲)

DIAG ERROR RESET
          (YES→▲)

MEMORY BACKUP
          (YES→▲)

EXIT MENU (YES→▲)
```

DIAG ERROR RESET
The results of error check and the history of defective item are erased.
MEMORY BACKUP
The data of EEPROM on the TG, IF and ES boards are made backup copy to the EEPROM on the MB board.
If the communication between the EEPROM on the TG, IF, ES boards and microcomputer are abnormal when the power switch turns on, the data of backup copy on the EEPROM of the MB board is used because the data held on the EEPROM of TG, IF and ES boards can not be used.
Therefore, make backup copy, when changing the contents of the menu page 5 through page 8, page 11 and page 12, or when changing the one of TG, IF, ES and MB boards.

Note : The DIAG ERROR RESET and MEMORY BACKUP are carried out when the RESET on the service menu of page 1 is executed.

- **Page 19 Selfdiagnosis 2**

```
PAGE19(NEXT→▼ PREV→▲)

ERROR DISP 1/3
DISP SELECT : 1
  PP-PMPD  : 000H
  PR-PMPD1 : 000H
  PR-PMPD2 : 000H
  PR-G2    : 000H
  PR-R2    : 000H

EXIT MENU (YES→▲)
```

DISP SELECT
The contents of the defective items are changed.
1: The result of latest error is displayed.
2: This selfdiagnosis is automatically carried out, and the defective item diagnosed in the past are displayed.
PP-PMPD
The details of check result for the synchronization signal input and the internal RAM in PP LSI are displayed.
800H: The internal RAM of PP LSI is abnormal.
002H: The input HD signal (IC405, pin102) to the PP LSI is abnormal.
001H: The input VD signal (IC405, pin 101) to the PP LSI is abnormal.

Note : When the plural abnormality is occurred, the hexadecimal numbers of three digits are displayed in the total value of each error codes. When both HD and VD signals inputted to the PP LSI are abnormal, the PP-PMPD is displayed in the 003H.

PR-PMPD1

The details of check result for the synchronization signal input in PP LSI are displayed.
002H: The input HD signal (IC411, pin74) to the PR LSI is abnormal.
001H: The input VD signal (IC411, pin73) to the PR LSI is abnormal.

PR-PMPD2

The details of check result for the internal RAM in PR LSI are displayed.
800H: The internal RAM of PR LSI.

PR-G2

This display item is not used.

PR-R2

This display item is not used.

- **Page 20 Selfdiagnosis 3**

```
PAGE20(NEXT→▼ PREV→▲)

ERROR DISP 2/3
DISP SELECT   : 1
 PR-G1    :   000H
 PR-R1    :   000H
 PR-G0    :   000H
 PR-R0    :   000H
 PR-B1    :   000H

EXIT MENU (YES→▲)
```

PR-G1

This display item is not used.

PR-R1

This display item is not used.

PR-G0

This display item is not used.

PR-R0

This display item is not used.

PR-B1

This display item is not used.

- **Page 21 Selfdiagnosis 4**

```
PAGE21(NEXT→▼ PREV→▲)

ERROR DISP 3/3
DISP SELECT : 1
 RC- PMPD:   000H
 RC- CY   :  000H
 RC- CCR  :  000H
 RC- CCB  :  000H
 DSP COM. :  000H
 MEMORY   :  000H
EXIT MENU (YES→▲)
```

RC-PMPD

The details of check result for synchronization signal input and the internal RAM in RC LSI are displayed.
800H: The internal RAM of RC LSI is abnormal.
004H: The input CF signal (IC520, pin63) to the RC LSI is abnormal.
002H: The input HD signal (IC520, pin64) to the RC LSI is abnormal.
001H: The input VD signal (IC520, pin65) to the RC LSI is abnormal.

RC-CY

The details of check result for the connection regarding the Y signal between PR LSI and RC LSI are displayed.

400H: The connection between PR IC411 pin94 and IF IC520 pin97 is abnormal.(The No.10 of Y signal)

200H: The connection between PR IC411 pin93 and IF IC520 pin98 is abnormal.(The No.9 of Y signal)

100H: The connection between PR IC411 pin92 and IF IC520 pin99 is abnormal.(The No.8 of Y signal)

080H: The connection between PR IC411 pin91 and IF IC520 pin100 is abnormal.(The No.7 of Y signal)

040H: The connection between PR IC411 pin90 and IF IC520 pin101 is abnormal.(The No.6 of Y signal)

020H: The connection between PR IC411 pin89 and IF IC520 pin103 is abnormal.(The No.5 of Y signal)

010H: The connection between PR IC411 pin88 and IF IC520 pin104 is abnormal.(The No.4 of Y signal)

008H: The connection between PR IC411 pin86 and IF IC520 pin105 is abnormal.(The No.3 of Y signal)

004H: The connection between PR IC411 pin85 and IF IC520 pin106 is abnormal.(The No.2 of Y signal)

002H: The connection between PR IC411 pin84 and IF IC520 pin107 is abnormal.(The No.1 of Y signal)

001H: The connection between PR IC411 pin83 and IF IC520 pin108 is abnormal.(The No.0 of Y signal)

RC-CCR

The details of check result for the connection regarding the CR signal between PR LSI and RC LSI are displayed.

400H: The connection between PR IC411 pin108 and IF IC520 pin84 is abnormal.(The No.10 of CR signal)

200H: The connection between PR IC411 pin107 and IF IC520 pin85 is abnormal.(The No.9 of CR signal)

100H: The connection between PR IC411 pin106 and IF IC520 pin86 is abnormal.(The No.8 of CR signal)

080H: The connection between PR IC411 pin104 and IF IC520 pin87 is abnormal.(The No.7 of CR signal)

040H: The connection between PR IC411 pin103 and IF IC520 pin88 is abnormal.(The No.6 of CR signal)

020H: The connection between PR IC411 pin102 and IF IC520 pin89 is abnormal.(The No.5 of CR signal)

010H: The connection between PR IC411 pin101 and IF IC520 pin92 is abnormal.(The No.4 of CR signal)

008H: The connection between PR IC411 pin100 and IF IC520 pin93 is abnormal.(The No.3 of CR signal)

004H: The connection between PR IC411 pin99 and IF IC520 pin94 is abnormal.(The No.2 of CR signal)

002H: The connection between PR IC411 pin98 and IF IC520 pin95 is abnormal.(The No.1 of CR signal)

001H: The connection between PR IC411 pin95 and IF IC520 pin96 is abnormal.(The No.0 of CR signal)

RC-CCB

The details of check result for the connection regarding the CB signal between PR LSI and RC LSI are displayed.

400H: The connection between PR IC411 pin121 and IF IC520 pin70 is abnormal.(The No.10 of CB signal)

200H: The connection between PR IC411 pin120 and IF IC520 pin71 is abnormal.(The No.9 of CB signal)

100H: The connection between PR IC411 pin119 and IF IC520 pin72 is abnormal.(The No.8 of CB signal)

080H: The connection between PR IC411 pin118 and IF IC520 pin75 is abnormal.(The No.7 of CB signal)

040H: The connection between PR IC411 pin117 and IF IC520 pin76 is abnormal.(The No.6 of CB signal)

020H: The connection between PR IC411 pin116 and IF IC520 pin77 is abnormal.(The No.5 of CB signal)

010H: The connection between PR IC411 pin115 and IF IC520 pin78 is abnormal.(The No.4 of CB signal)

008H: The connection between PR IC411 pin112 and IF IC520 pin79 is abnormal.(The No.3 of CB signal)

004H: The connection between PR IC411 pin111 and IF IC520 pin80 is abnormal.(The No.2 of CB signal)

002H: The connection between PR IC411 pin110 and IF IC520 pin82 is abnormal.(The No.1 of CB signal)

001H: The connection between PR IC411 pin109 and IF IC520 pin83 is abnormal.(The No.0 of CB signal)

Note : If the input of synchronization signal to the PR LSI or RC LSI is abnormal, the connection check between PR LSI and RC LSI is detected the abnormality.
RC LSI relation check is only carried out, when the digital output of DXC-D30/D30P is used for connecting DSR-1/1P and so on.

DSP COM

The details of check result for the communication between each LSI and microcomputer.

004H: The communication between RC LSI and microcomputer is abnormal.

002H: The communication between PR LSI and microcomputer is abnormal.

001H: The communication between PP LSI and microcomputer is abnormal.

Note : The RC LSI is carried out into communication with the microcomputer by six pins of pin26(CS), pin25(SCK), pin24(SDA0), pin23(SDA1), pin22(SDA2) and pin21(SDA3).
The PR LSI is carried out into communication with the microcomputer by six pins of pin58(CS), pin57(SCK), pin56(SDA0), pin55(SDA1), pin54(SDA2) and pin53(SDA3).
The PP LSI is carried out into communication with the microcomputer by six pins of pin41(CS), pin40(SCK), pin39(SDA0), pin38(SDA1), pin37(SDA2) and pin36(SDA3).If the communication between LSI and the microcomputer is abnormal, the abnormality of other item may be detected at the same time.

MEMORY

The details of check result for the communication between each EEPROM and microcomputer.

080H: The communication between EEPROM of ES and microcomputer is abnormal.

040H: The communication between EEPROM of IF and microcomputer is abnormal.

020H: The communication between EEPROM of TG and microcomputer is abnormal.

010H: The communication between EEPROM of MB and microcomputer is abnormal.

Note : The corresponding display for the data of each EEPROM on the service menu becomes a blank column, when using the standard value of microcomputer, because of the EEPROM on the MB board is abnormal, or when using the backup copy, because of the EEPROM on the TG, IF and ES boards is abnormal.

- **Page 22 Present unit condition indication**

```
PAGE22(NEXT→▼ PREV→▲)

COND IND  : OFF
POWER     : 12.1V
TIS       : 224h
R GAIN    : 7e6h
B GAIN    : 800h
IRIS POS  : 000h
KWC       : 000h

EXIT MENU (YES→▲)
```

This is the communication of the production.
This is not related to service.

SONY

SONY - SP0261

デジタルビデオカメラ

DIGITAL VIDEO CAMERA

DXC-D30/D30P

ズームレンズ

ZOOM LENS

VCL-916BYA

SERVICE MANUAL

Vol. 2 (1st Edition)

Power HAD

Printed by: Schaltungsdienst Lange, Berlin (Germany)

指定部品を使用する

回路図，部品表に⚠印で指定されている部品は安全重要部品ですので指定のものをご使用ください。

SAFETY RELATED COMPONENT WARNING

Components indentified by ⚠ marked on the schematic diagrams and parts list are critical to safe operation.
Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

X-RAY RADIATION WARNING

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

電池についてのご注意

電池は，正しく交換しないと爆発する危険があります。
電池を交換する場合にはソニー製のリチウム電池(CR2032)または同等タイプのものを使用してください。

LITHIUM BATTERY

Replace the battery with a Sony CR2032 lithium battery. Use of another battery may present a risk of fire or explosion.

WARNING

Battery may explode if mistreated.
Do not recharge, disassemble or dispose of in fire.

Note

Keep the lithium battery out of the reach of children. Should the battery be swallowed, consult a doctor immediately.

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
levér det brugte batteri tilbage til laverandøren.

ADVARSEL.

Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.
Brukt batteri returneres apparatleverandøren.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt gällande föreskrifter.

VAROITUS

Paristo voi räjähtää jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

サービス用のマニュアル

安全のために

設置や保守，点検，修理などを行う前に，この「安全のために」と，サービス用のマニュアルをよくお読みください。

サービス技術者へ

⚠ 警告

ソニー製品は安全に十分に配慮して設計されています。しかし，電気製品はサービス時に間違った扱い方をすると，火災や感電などにより死亡や大けがなど人身事故につながることがあり，危険です。この「安全のために」は事故を防ぐために重要な注意事項を示しています。この「安全のために」及び別冊の取扱説明書の「⚠警告⚠注意」をよくお読みの上，安全に設置や保守，点検，修理などを行ってください。

警告表示の意味

このサービス用のマニュアルおよび製品では，次のような表示をしています。表示の内容をよく理解してから本文をお読みください。

⚠ 警告

この表示の注意事項を守らないと，火災や感電などにより死亡や大けがなど人身事故につながることがあります。

注意を促す記号

注意

火災

感電

行為を指示する記号

プラグをコンセントから抜く

強制

⚠警告 火災 感電 下記の注意を守らないと，
火災や感電による死亡や大けがにつながることがあります。

プラグをコンセントから抜く

感電にご注意を

・部品交換の場合は感電の危険があるので電源プラグを抜いてください。
・内部には高電圧の部分があり，通電時においては感電の危険がありますので充分ご注意ください。

強制

指定部品を使用する

回路図，部品表に⚠印で指定されている部品は安全重要部品ですので指定のものをご使用ください。

強制

部品の取付けや配線の引き回しは元通りにする

・チューブやテープなどの絶縁材料を使用した部品，及びプリント基板から浮かして取付けた部品を元通りにする。
・引き回しやクランパーで発熱部品，高圧部品及び可動部分に接近しないように処理したハーネスの引き回しを元通りにする。

強制

ブラウン管の取扱いは丁寧に行う
(モニター，CRTプロジェクター，ビューファインダーの場合)

ブラウン管に衝撃を与えると爆縮の恐れがあります。取扱いに充分ご注意ください。

強制

X線についてのご注意

X線に対しては，ブラウン管，高圧周辺回路等に配慮し安全を確保しています。従って，高圧周辺回路を修理する時はブラウン管など指定の部品を使用し，回路変更は絶対に行わないでください。指定以外の修理は高圧回路の電圧が上昇し，ブラウン管からX線が増加し，健康に悪影響があります。

強制

電池についてのご注意

・電池は，正しく交換しないと爆発する危険があります。電池を交換する場合には必ずマニュアルで指定している電池を使用してください。
・火の中に入れないでください。ショートさせたり，分解，加熱しないでください。発熱，発火，破裂の恐れがあります。
・使用済電池は，端子(金属部分)にテープを貼るなどの処理をし，指定の方法で廃棄してください。
・使用済ニカド電池はリサイクル協力店にご持参ください。

強制

サービス後は安全点検を

サービスのために取り外したネジ，部品，配線がもとどおりになっているか確認してください。またサービスした箇所の周辺の部品及び線材の損傷してしまったところがないかなどを点検してください。

・感電・漏電を防ぐために金属部と電源プラグの絶縁チェックを行ってください。

(絶縁チェックの方法)

電源コンセントから電源プラグを抜き，電源スイッチをいれます。500 V絶縁抵抗計を用いて電源プラグのそれぞれの端子と外部露出金属部との間で，絶縁抵抗値が1MΩ以上であること。この値以下の時はセットの点検修理が必要です。

このマニュアルについて

本書はデジタルビデオカメラDXC-D30とDXC-D30Pのサービスマニュアル VOL.2です。
本書では、ブロックダイヤグラム、マウント図、回路図、半導体、パーツリストを記載しています。

関連マニュアル

この「サービスマニュアル VOL.2」の他に、下記のマニュアルが用意されています。

- サービスマニュアル vol.1

部品番号：9-977-264-11
本機の取り扱い、操作方法と部品の交換方法および調整などに関する情報を記載しています。

- サービスマニュアル DXF-701/701CE

部品番号：9-977-265-01
別途発行のDXF-701/701CEのサービスマニュアルをご覧ください。

- サービスマニュアル VCT-U14

部品番号：9-977-221-01
既に発行済のVCT-U14のサービスマニュアルをご覧ください。

Introducing this manual

This manual is the Service Manual Vol. 2 of the DIGITAL VIDEO CAMERA DXC-D30 and DXC-D30P.
This manual contains the following items.

Related manuals

In addition to this Service Manual Vol. 2, the following manuals are provided.

- **Service Manual Vol. 1**

Part No. 9-977-263-11
Contains the operation manual related to the operations of this equipment, the replacement of the parts and adjustments.

- **Service Manual DXF-701/701CE**

Part No. 9-977-265-01
See the DXF-701/701CE service manual available separately.

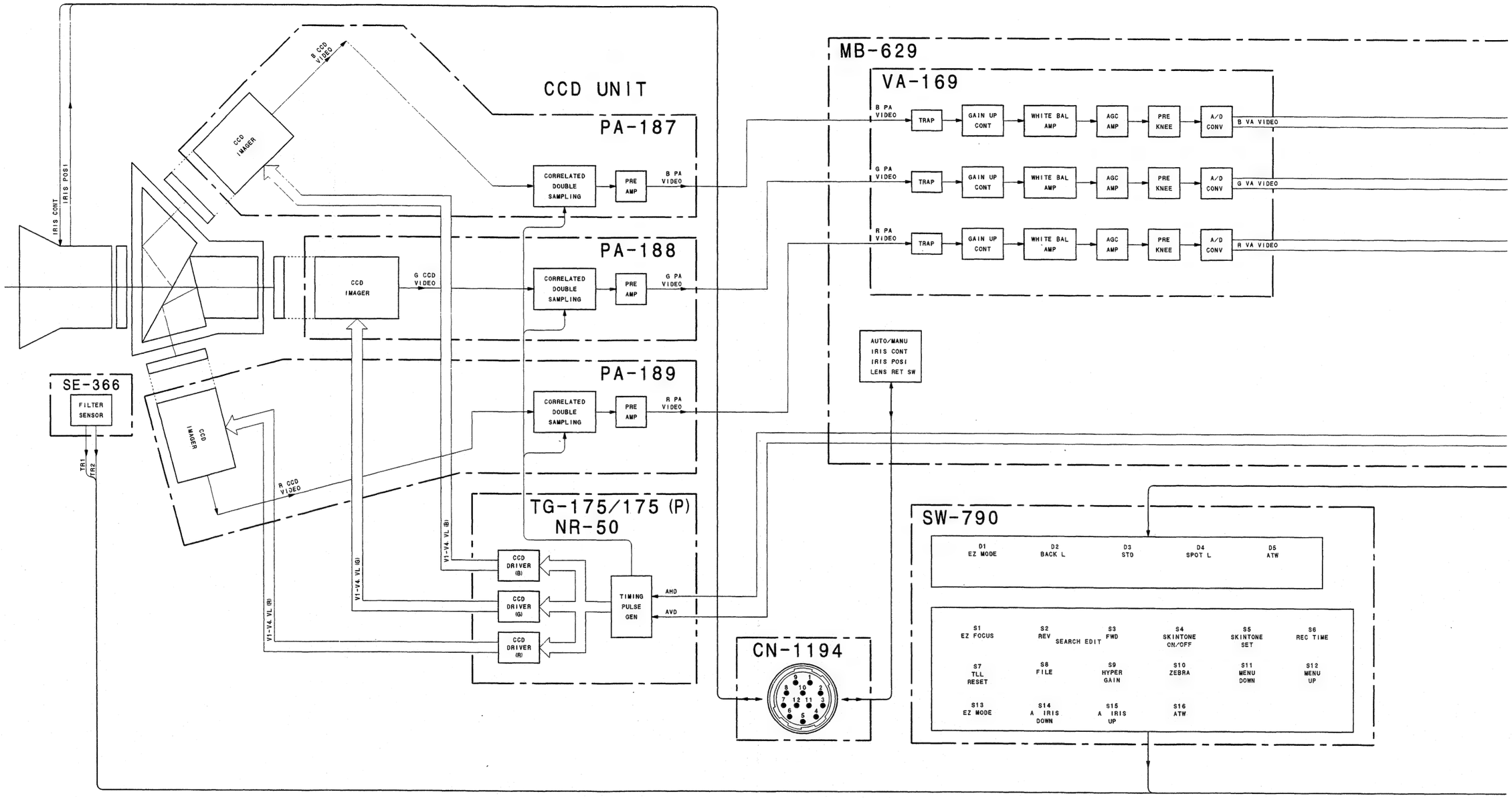
- **Service Manual VCT-U14**

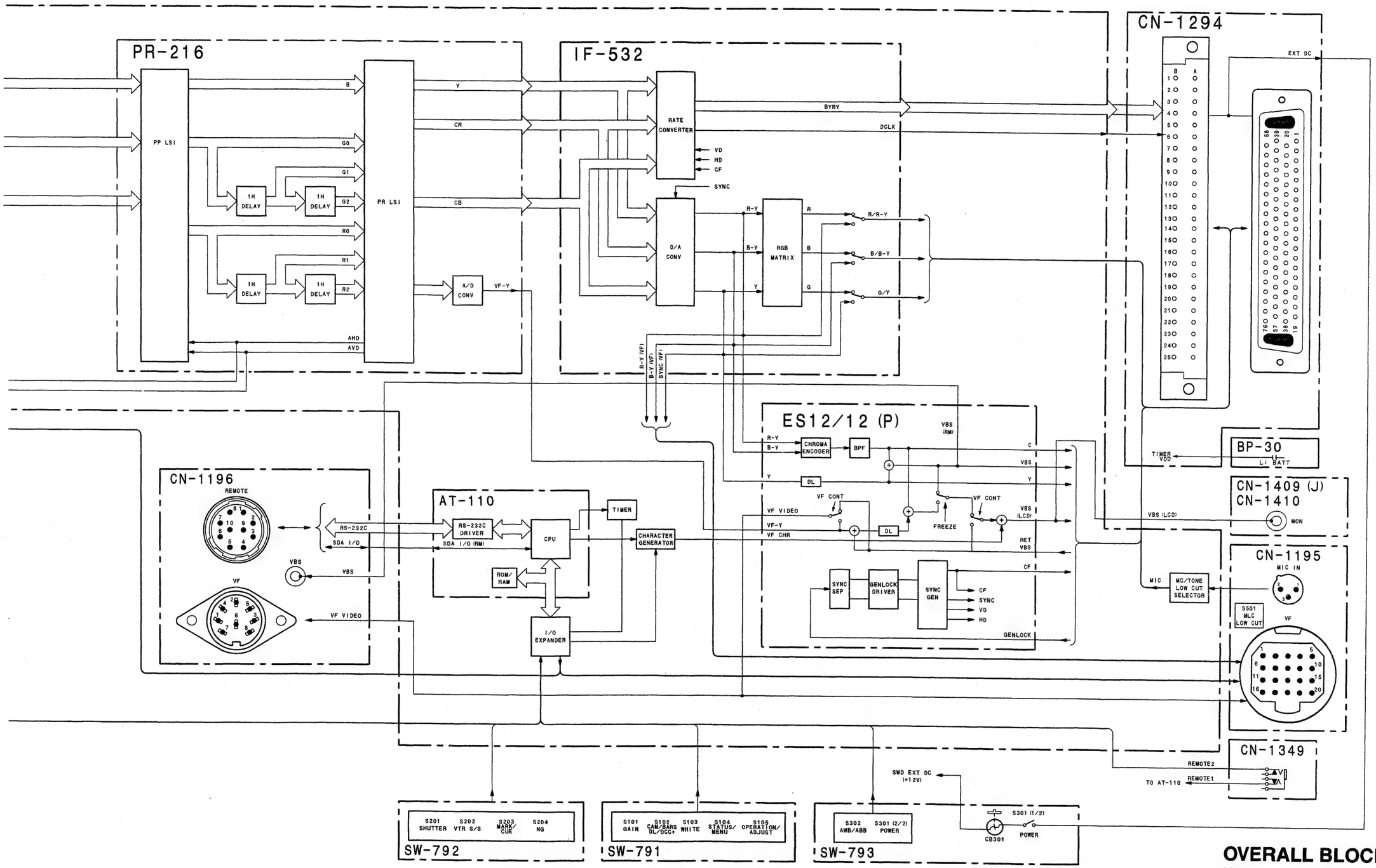
Part No. 9-977-221-01
See the VCT-U14 service manual available separately.

TABLE OF CONTENTS

SECTION 4
BLOCK DIAGRAMS

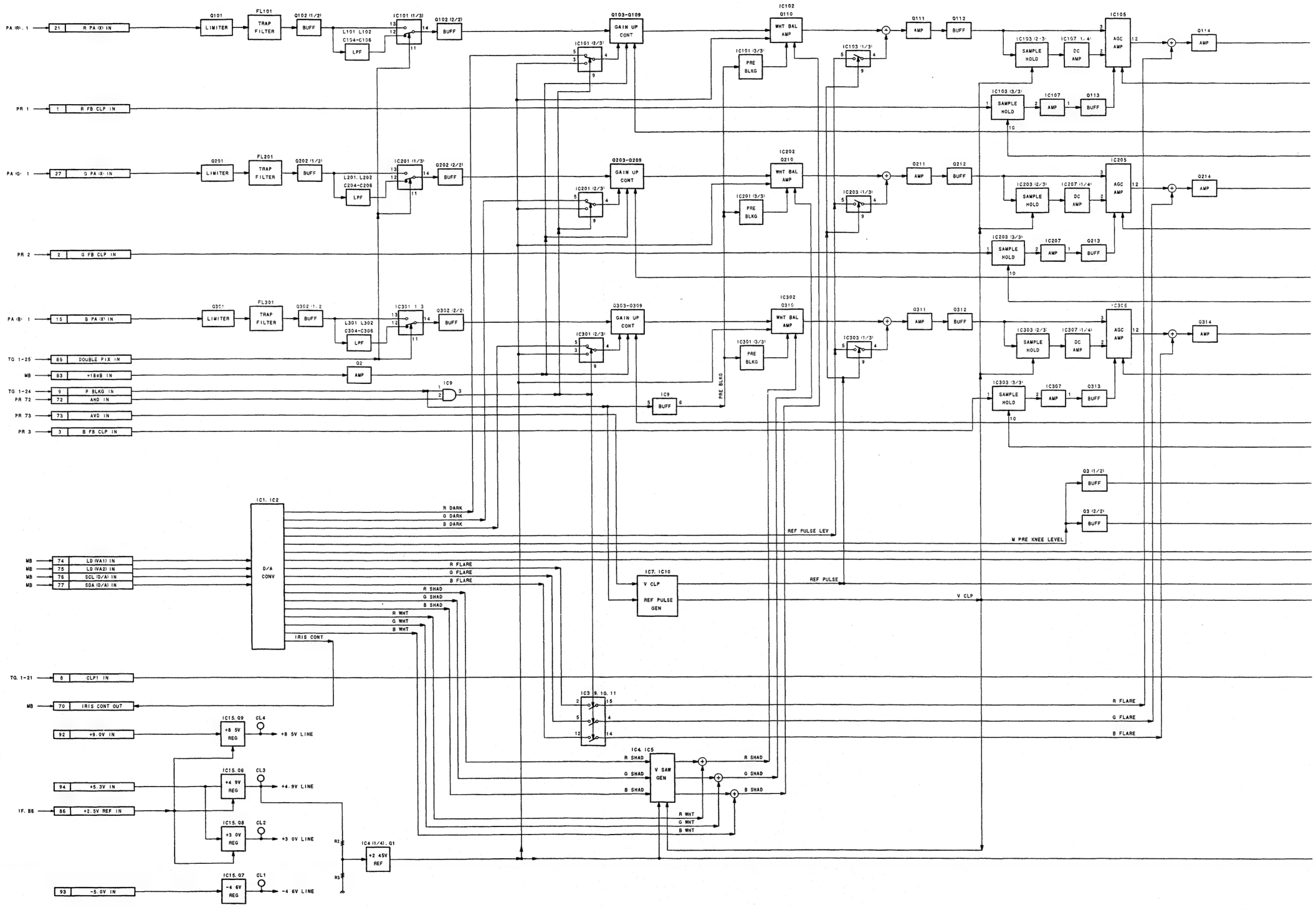
4-1

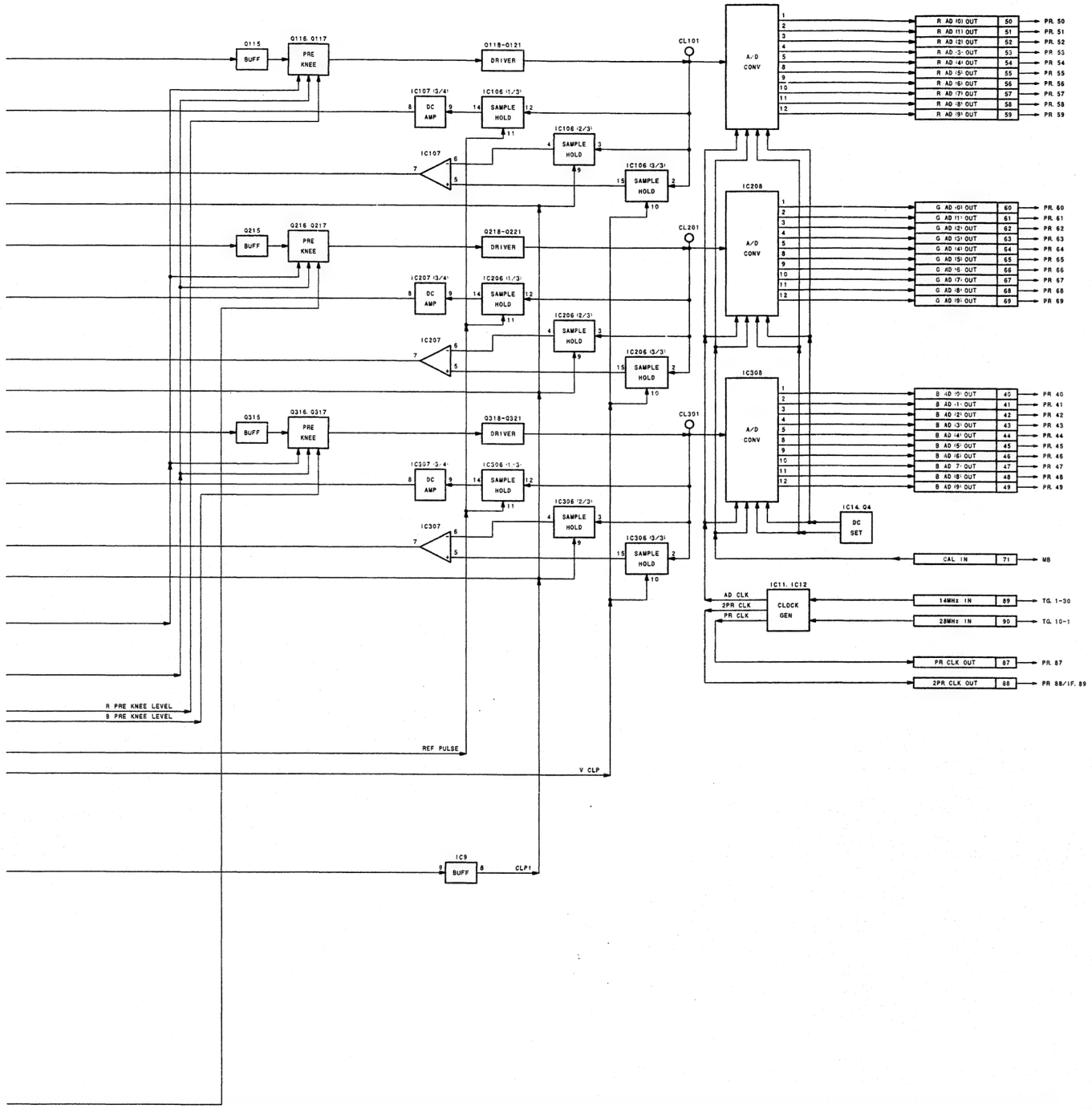

CCD UNIT
PA-187
PA-188
PA-189
B CCD VIDEO
G CCD VIDEO
R CCD VIDEO
CCD IMAGER
CORRELATED DOUBLE SAMPLING
PRE AMP
B PA VIDEO
G PA VIDEO
R PA VIDEO
IRIS CONT
IRIS POSI
SE-366
FILTER SENSOR
TR1
TR2
TG-175/175 (P)
NR-50
CCD DRIVER (B)
CCD DRIVER (G)
CCD DRIVER (R)
V1-V4, VL (B)
V1-V4, VL (G)
V1-V4, VL (R)
TIMING PULSE GEN
AHD
AVD
CN-1194
MB-629
VA-169
TRAP
GAIN UP CONT
WHITE BAL AMP
AGC AMP
PRE KNEE
A/D CONV
B VA VIDEO
G VA VIDEO
R VA VIDEO
AUTO/MANU
IRIS CONT
IRIS POSI
LENS RET SW
SW-790
D1 EZ MODE
D2 BACK L
D3 STD
D4 SPOT L
D5 ATW
S1 EZ FOCUS
S2 REV
SEARCH EDIT
S3 FWD
S4 SKINTONE ON/OFF
S5 SKINTONE SET
S6 REC TIME
S7 TLL RESET
S8 FILE
S9 HYPER GAIN
S10 ZEBRA
S11 MENU DOWN
S12 MENU UP
S13 EZ MODE
S14 A IRIS DOWN
S15 A IRIS UP
S16 ATW



OVERALL BLOCK

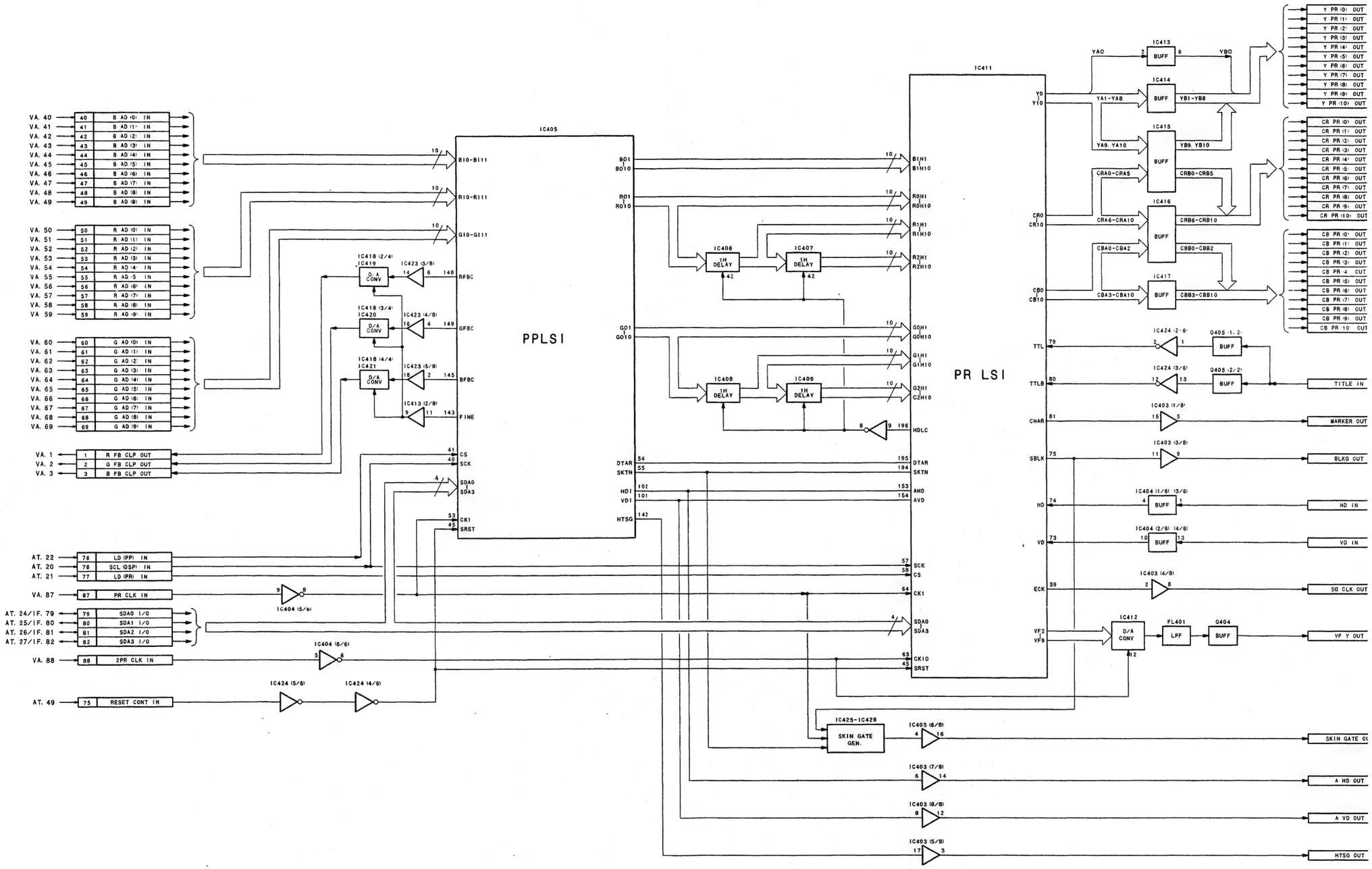
MODEL DXC-D30/D30P
B-DXCD30-OABLOCK


PA (R) 1
21 R PA (X) IN
Q101 LIMITER
FL101 TRAP FILTER
Q102 (1/2) BUFF
L101 L102 C104-C106 LPF
IC101 (1/3)
Q102 (2/2) BUFF
Q103-Q109 GAIN UP CONT
IC102 Q110 WHT BAL AMP
Q111 AMP
Q112 BUFF
IC103 (2/3) SAMPLE HOLD
IC107 (1/4) DC AMP
IC105 AGC AMP
Q114 AMP
PR 1
1 R FB CLP IN
IC101 (2/3)
IC101 (3/3) PRE BLKG
IC103 (1/3)
IC103 (3/3) SAMPLE HOLD
IC107 Q113 BUFF
PA (G) 1
27 G PA (X) IN
Q201 LIMITER
FL201 TRAP FILTER
Q202 (1/2) BUFF
L201 L202 C204-C206 LPF
IC201 (1/3)
Q202 (2/2) BUFF
Q203-Q209 GAIN UP CONT
IC202 Q210 WHT BAL AMP
Q211 AMP
Q212 BUFF
IC203 (2/3) SAMPLE HOLD
IC207 (1/4) DC AMP
IC205 AGC AMP
Q214 AMP
PR 2
2 G FB CLP IN
IC201 (2/3)
IC201 (3/3) PRE BLKG
IC203 (1/3)
IC203 (3/3) SAMPLE HOLD
IC207 Q213 BUFF
PA (B) 1
15 B PA (X) IN
Q301 LIMITER
FL301 TRAP FILTER
Q302 (1/2) BUFF
L301 L302 C304-C306 LPF
IC301 (1/3)
Q302 (2/2) BUFF
Q303-Q309 GAIN UP CONT
IC302 Q310 WHT BAL AMP
Q311 AMP
Q312 BUFF
IC303 (2/3) SAMPLE HOLD
IC307 (1/4) DC AMP
IC305 AGC AMP
Q314 AMP
TG 1-25
85 DOUBLE PIX IN
MB
83 +18dB IN
Q2 AMP
IC301 (2/3)
IC301 (3/3) PRE BLKG
IC303 (1/3)
IC303 (3/3) SAMPLE HOLD
IC307 Q313 BUFF
TG 1-24
9 P BLKG IN
PR 72
72 AHD IN
IC9
IC9 BUFF
PRE BLKG
PR 73
73 AVD IN
PR 3
3 B FB CLP IN
Q3 (1/2) BUFF
Q3 (2/2) BUFF
M PRE KNEE LEVEL
IC1, IC2 D/A CONV
MB 74 LD (VA1) IN
MB 75 LD (VA2) IN
MB 76 SCL (D/A) IN
MB 77 SDA (D/A) IN
IRIS CONT
R DARK
G DARK
B DARK
R FLARE
G FLARE
B FLARE
R SHAD
G SHAD
B SHAD
R WHT
G WHT
B WHT
REF PULSE LEV
IC7, IC10 V CLP REF PULSE GEN
REF PULSE
V CLP
TG 1-21
8 CLP1 IN
MB
70 IRIS CONT OUT
IC3, 9, 10, 11
IC4, IC5 V SAW GEN
IC15, Q9 +8.5V REG
CL4
92 +9.0V IN
+8.5V LINE
IC15, Q6 +4.9V REG
CL3
94 +5.3V IN
+4.9V LINE
IF, 85
86 +2.5V REF IN
IC15, Q8 +3.0V REG
CL2
+3.0V LINE
R2
R3
IC4 (1/4), Q1 +2.45V REF
IC15, Q7 -4.6V REG
CL1
93 -5.0V IN
-4.6V LINE



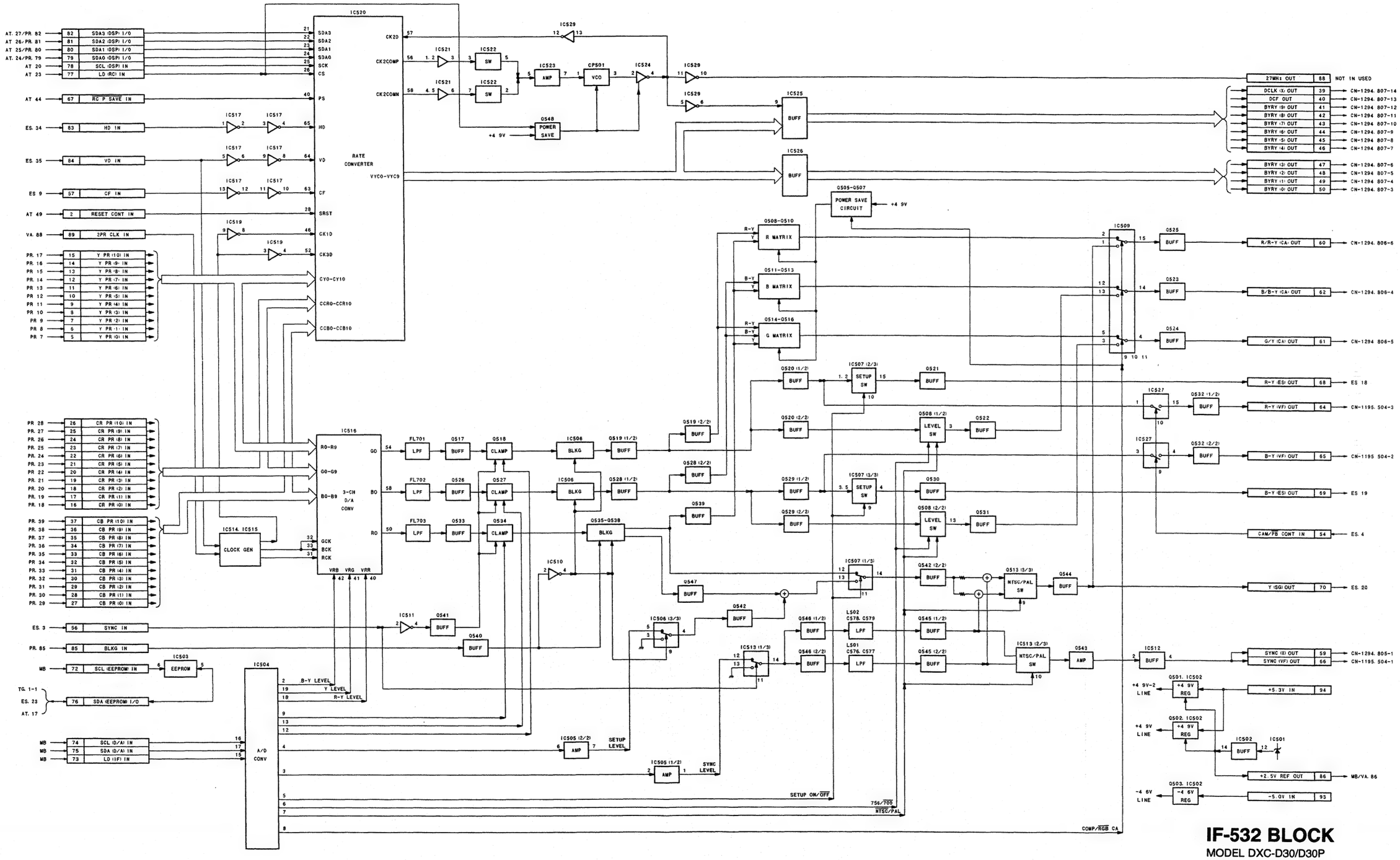
VA-169 BLOCK

MODEL DXC-D30/D30P
B-DXCD30-VA169BLOCK/M



PR-216 BLOCK

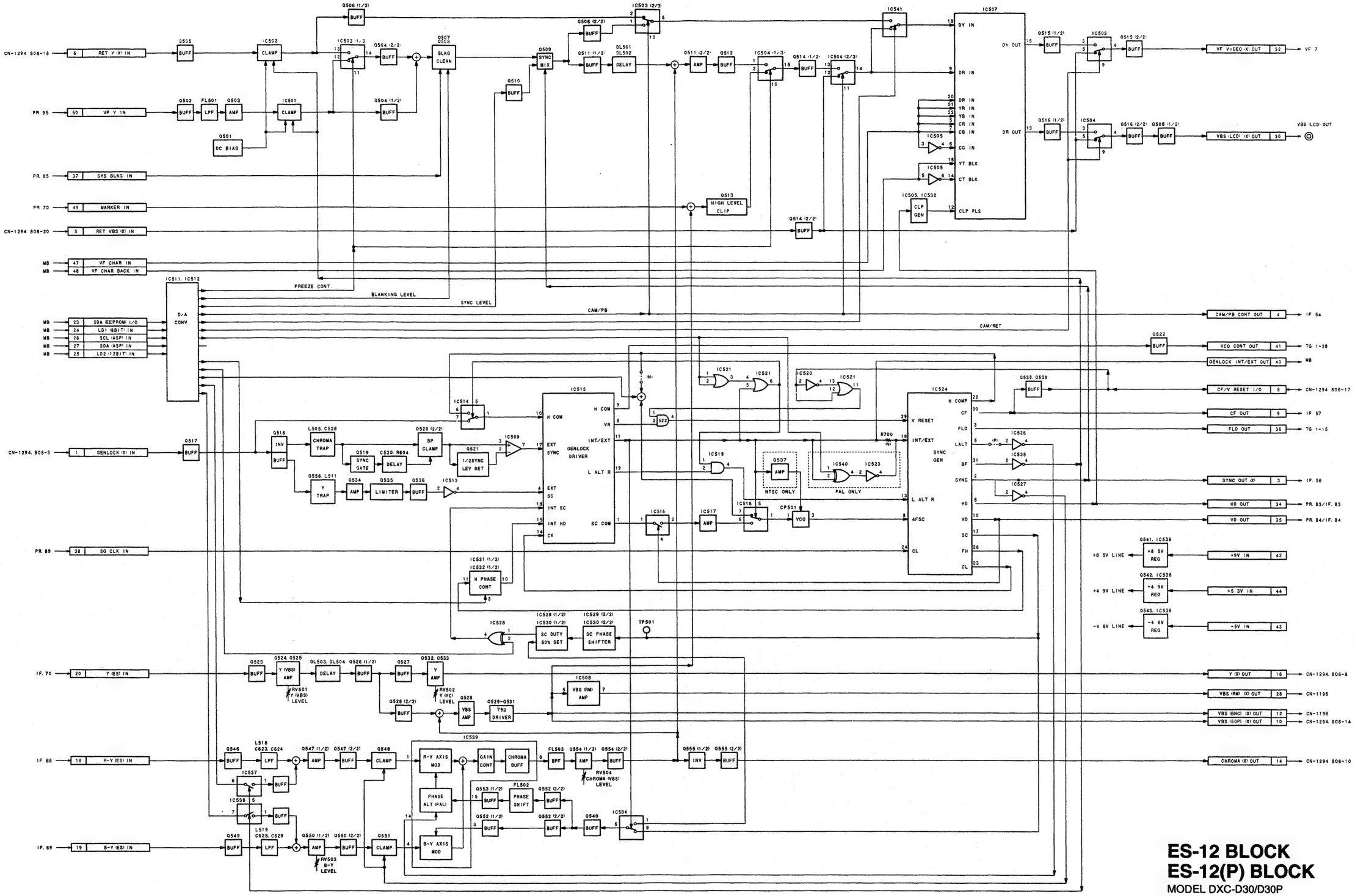
MODEL DXC-D30/D30P
B-DXCD30-PR216BLOCK/M



IF-532 BLOCK

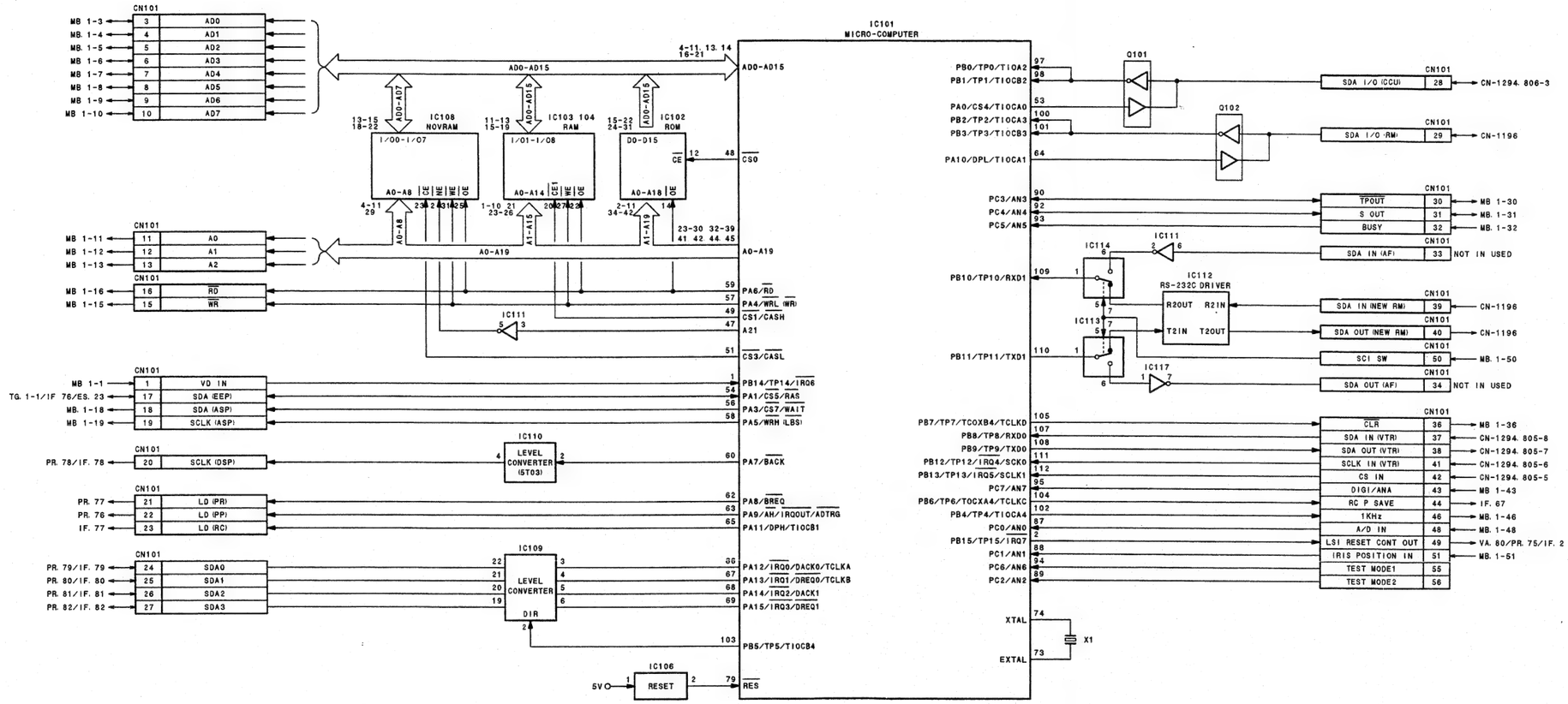
MODEL DXC-D30/D30P

B-DXCD30-IF532BLOCK/M



ES-12 BLOCK
ES-12(P) BLOCK

MODEL DXC-D30/D30P
B-DXCD30-ES12BLOCK/M


CN101
MB 1-3
MB. 1-4
MB. 1-5
MB 1-6
MB 1-7
MB 1-8
MB 1-9
MB 1-10
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD0-AD15
IC101
MICRO-COMPUTER
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RAM
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I/O1-I/O8
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A0-A8
A0-A14
A0-A18
CS0
A0-A19
A1-A19
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MB 1-12
MB 1-13
A0
A1
A2
MB 1-16
MB 1-15
RD
WR
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PA4/WRL (WR)
CS1/CASH
A21
CS3/CASL
IC111
MB 1-1
TG. 1-1/IF 76/ES. 23
MB. 1-18
MB 1-19
VD IN
SDA (EEP)
SDA (ASP)
SCLK (ASP)
PB14/TP14/IRQ6
PA1/CS5/RAS
PA3/CS7/WAIT
PA5/WRH (LBS)
IC110
LEVEL CONVERTER (5T03)
PR. 78/IF. 78
SCLK (DSP)
PA7/BACK
PR. 77
PR. 76
IF. 77
LD (PR)
LD (PP)
LD (RC)
PA8/BREQ
PA9/AH/IRQOUT/ADTRG
PA11/DPH/T1OCB1
IC109
LEVEL CONVERTER DIR
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PR. 80/IF. 80
PR. 81/IF. 81
PR. 82/IF. 82
SDA0
SDA1
SDA2
SDA3
PA12/IRQ0/DACK0/TCLKA
PA13/IRQ1/DREQ0/TCLKB
PA14/IRQ2/DACK1
PA15/IRQ3/DREQ1
PB5/TP5/T1OCB4
IC106
RESET
5V
RES
PB0/TP0/T1OCA2
PB1/TP1/T1OCB2
PA0/CS4/T1OCA0
PB2/TP2/T1OCA3
PB3/TP3/T1OCB3
PA10/DPL/T1OCA1
Q101
Q102
SDA I/O (CCU)
SDA I/O (RM)
PC3/AN3
PC4/AN4
PC5/AN5
TPOUT
S OUT
BUSY
SDA IN (AF)
NOT IN USED
PB10/TP10/RXD1
PB11/TP11/TXD1
IC112
RS-232C DRIVER
R2OUT R2IN
T2IN T2OUT
IC113
IC114
IC117
SDA IN (NEW RM)
SDA OUT (NEW RM)
SCI SW
SDA OUT (AF)
PB7/TP7/TCOXB4/TCLKD
PB8/TP8/RXD0
PB9/TP9/TXD0
PB12/TP12/IRQ4/SCK0
PB13/TP13/IRQ5/SCLK1
PC7/AN7
PB6/TP6/TOCXA4/TCLKC
PB4/TP4/T1OCA4
PC0/AN0
PB15/TP15/IRQ7
PC1/AN1
PC6/AN6
PC2/AN2
XTAL
EXTAL
X1
CLR
SDA IN (VTR)
SDA OUT (VTR)
SCLK IN (VTR)
CS IN
DIGI/ANA
RC P SAVE
1KHz
A/D IN
LSI RESET CONT OUT
IRIS POSITION IN
TEST MODE1
TEST MODE2
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MB. 1-31
MB. 1-32
MB 1-36
CN-1294. 805-8
CN-1294. 805-7
CN-1294. 805-6
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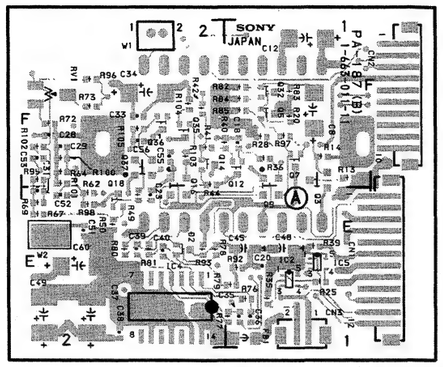
MB. 1-50
CN-1294. 806-3
CN-1196

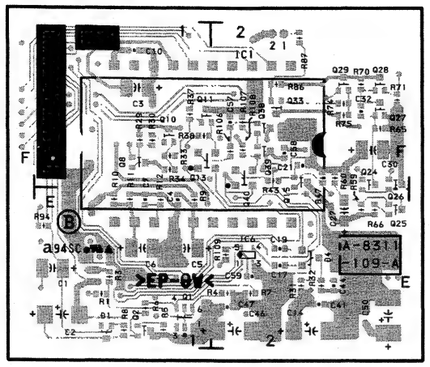
SECTION 5
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATIONS

PA-187(B)/188(G)/189(R),TG-175/175(P)

PA-187 BOARD

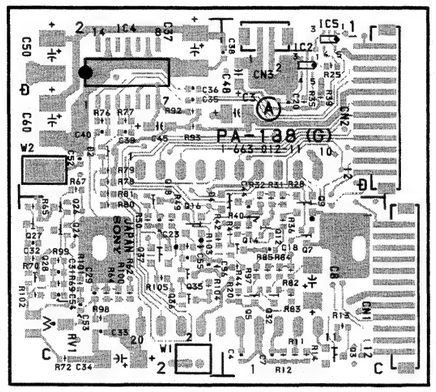


1-663-011-11 A SIDE

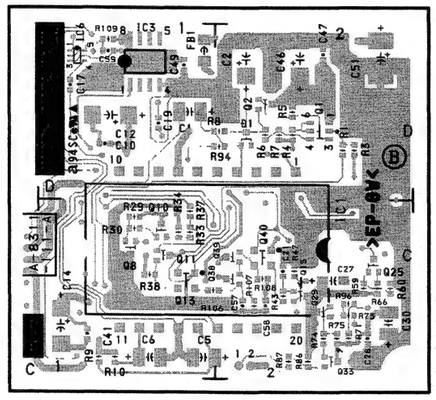


1-663-011-11 B SIDE

PA-188 BOARD

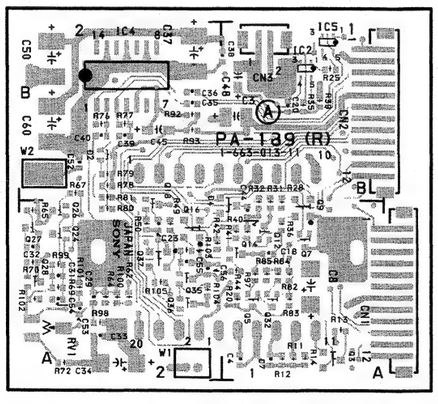


1-663-012-11 A SIDE

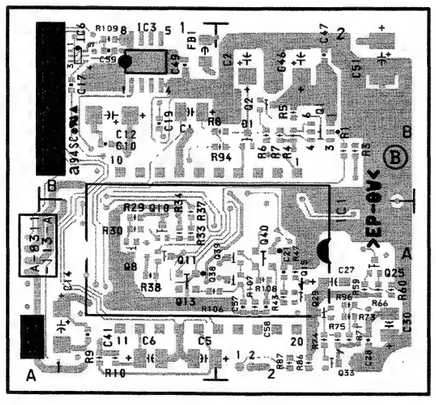


1-663-012-11 B SIDE

PA-189 BOARD

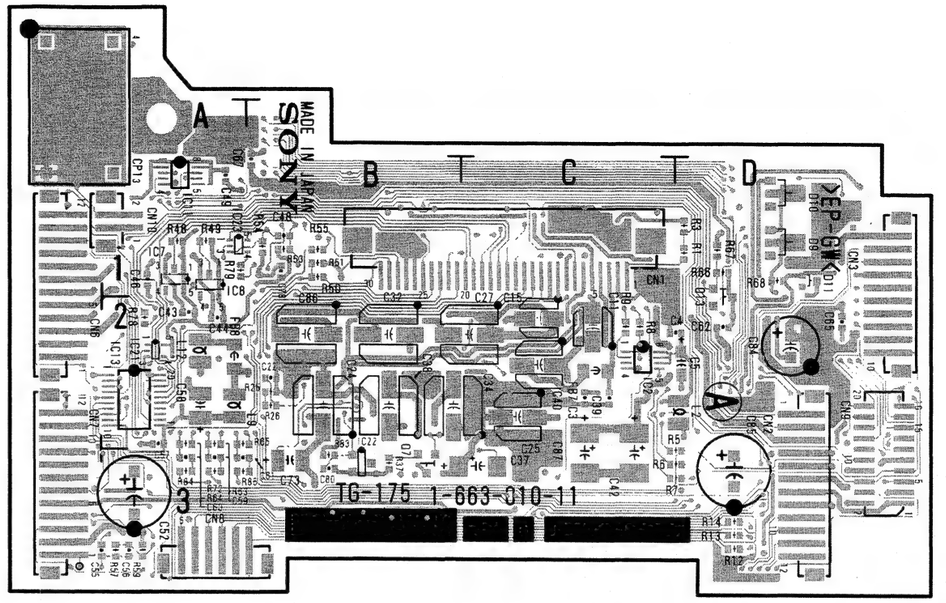


1-663-013-11 A SIDE

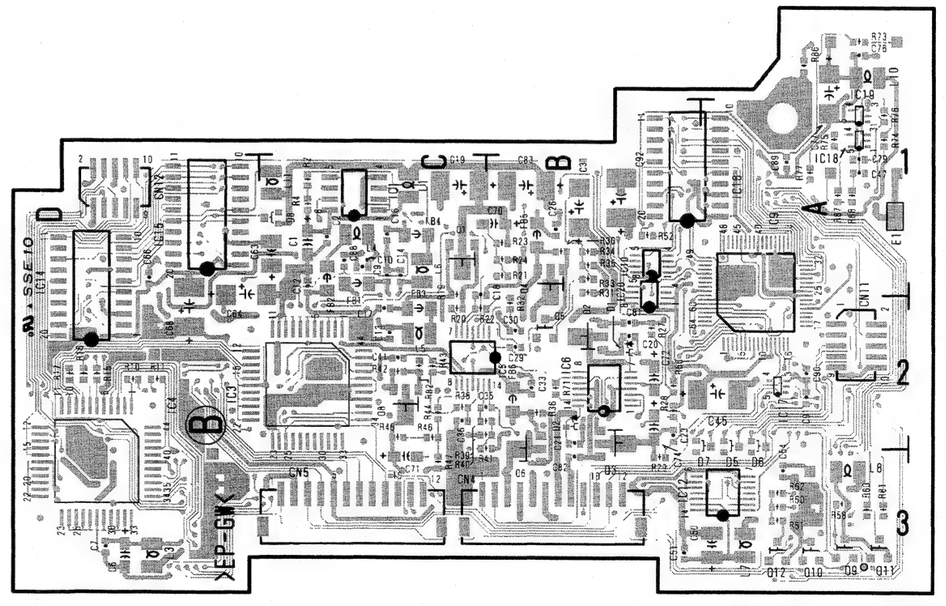


1-663-013-11 B SIDE

TG-175 BOARD



1-663-010-11 A SIDE



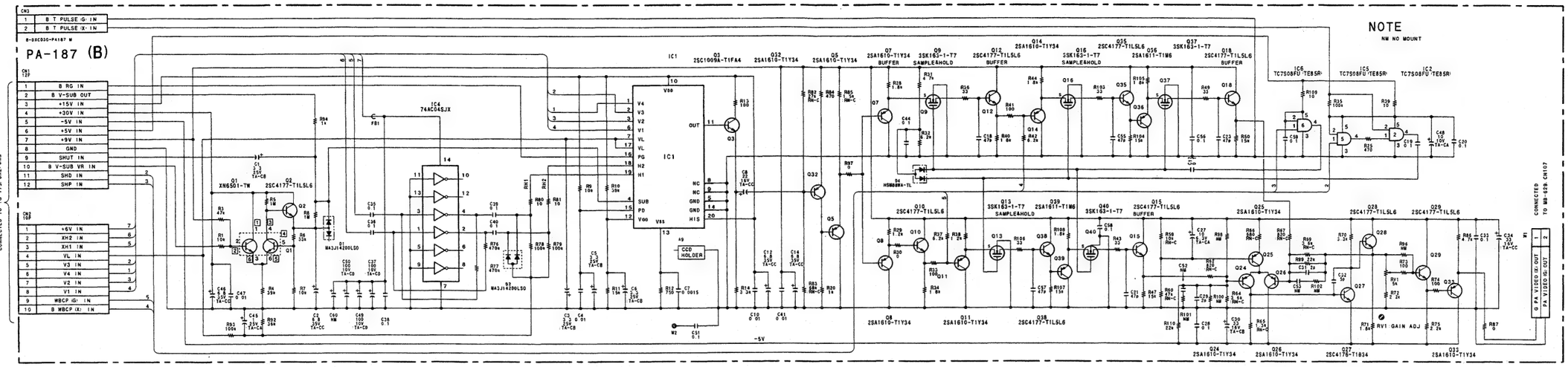
1-663-010-11 B SIDE

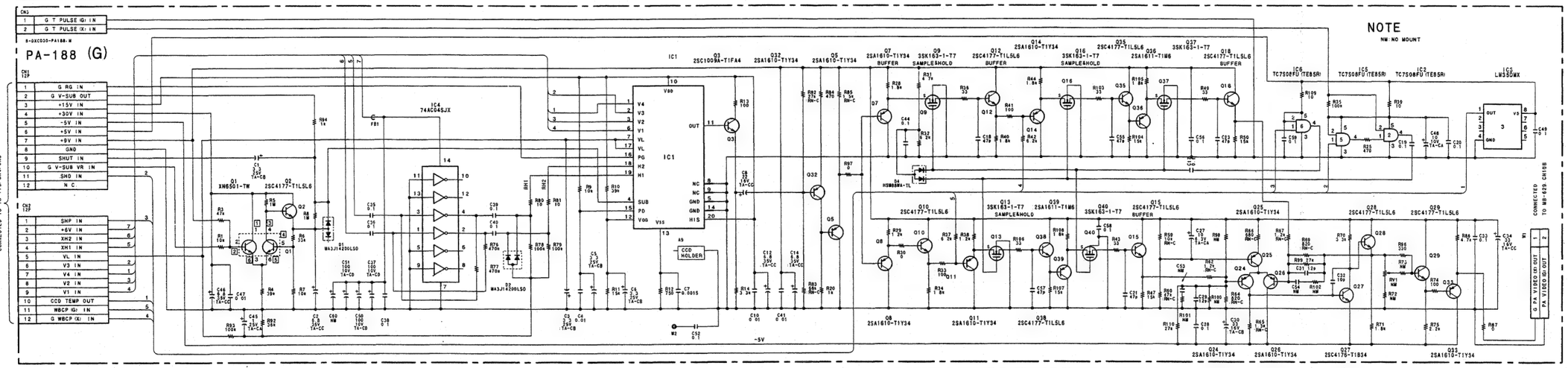
TG-175 (1-663-010-11)

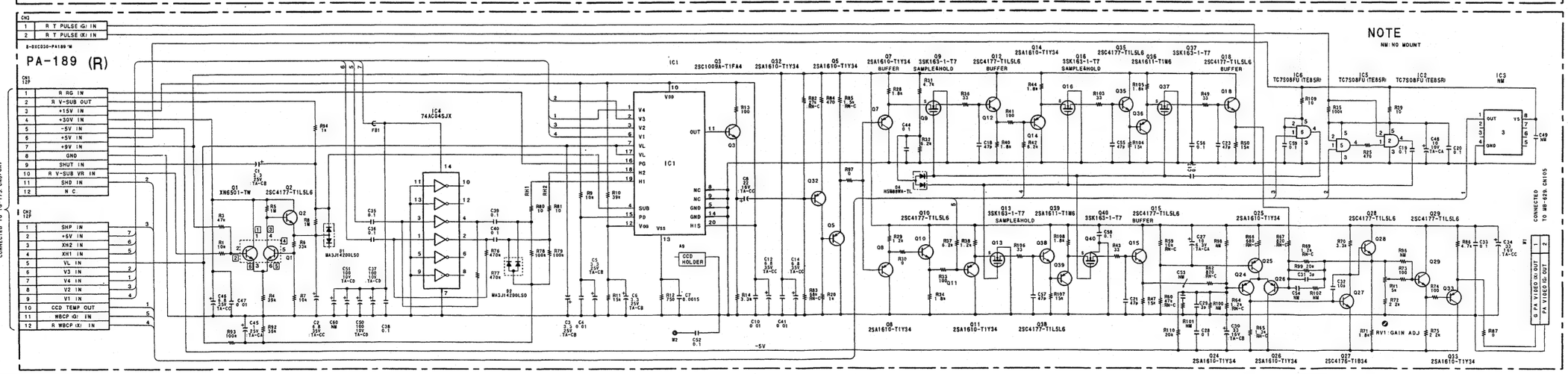
*: B SIDE

CN1	C1
CN2	D3
CN3	D1
*CN4	B3
*CN5	C3
CN6	A1
CN7	A3
CN8	A3
CN9	D3
CN10	A1
*CN11	A2
*CN12	D1
CP1	A1
*D1	B2
*D2	B2
*D5	A2
*D6	A2
*D7	A2
*D8	C1
D9	D1
D10	D1
D11	D1
*E1	A1
*FB1	C1
*FB2	C1
*FB3	C2
*FB4	C1
*FB5	B1
*FB6	B2
FB7	C2
FB8	A2
*IC1	C1
IC2	C2
*IC3	C2
*IC4	D3
*IC5	C2
*IC6	B2
IC7	A1
IC8	A1
*IC9	A1
*IC10	B1
IC11	A1
*IC12	A3
IC13	A2
*IC14	D1
*IC15	D1
*IC16	B1
*IC17	A2
*IC18	A1
*IC19	A1
*IC20	B1
IC21	A2
IC22	B3
IC23	A1
*L1	C1
L2	D2
*L3	D3
*L4	C1
*L5	C2
*L6	C1
*L7	A3
*L8	A3
L9	A2
*L10	A1
*L11	C1
L12	A2
*Q1	C1
*Q2	B2
*Q3	B2
*Q4	B1
*Q5	B2
*Q6	B2
Q7	B3
*Q8	C2
*Q9	A3
*Q10	A3
*Q11	A3
*Q12	A3
Q13	D1

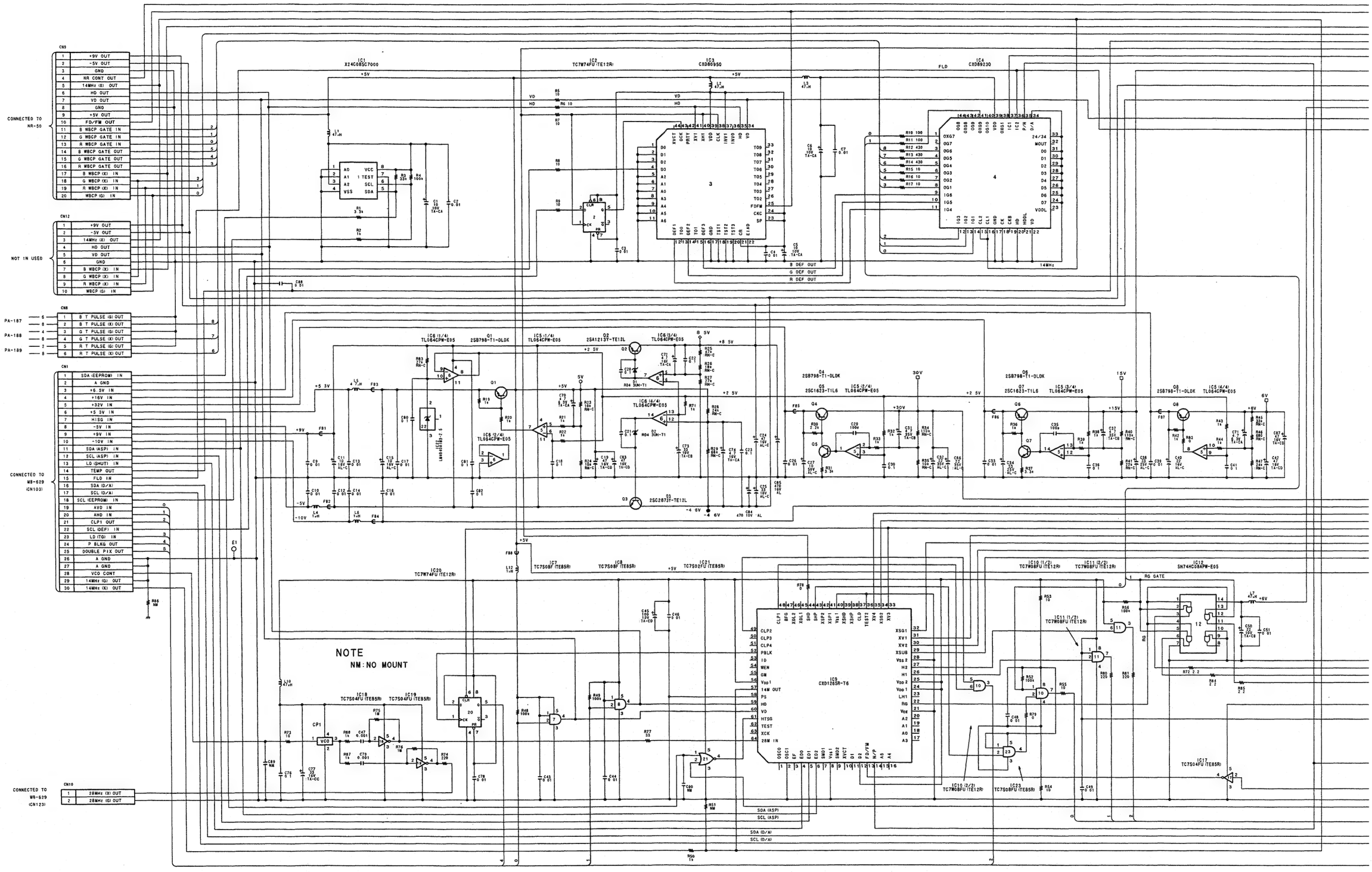
5-2







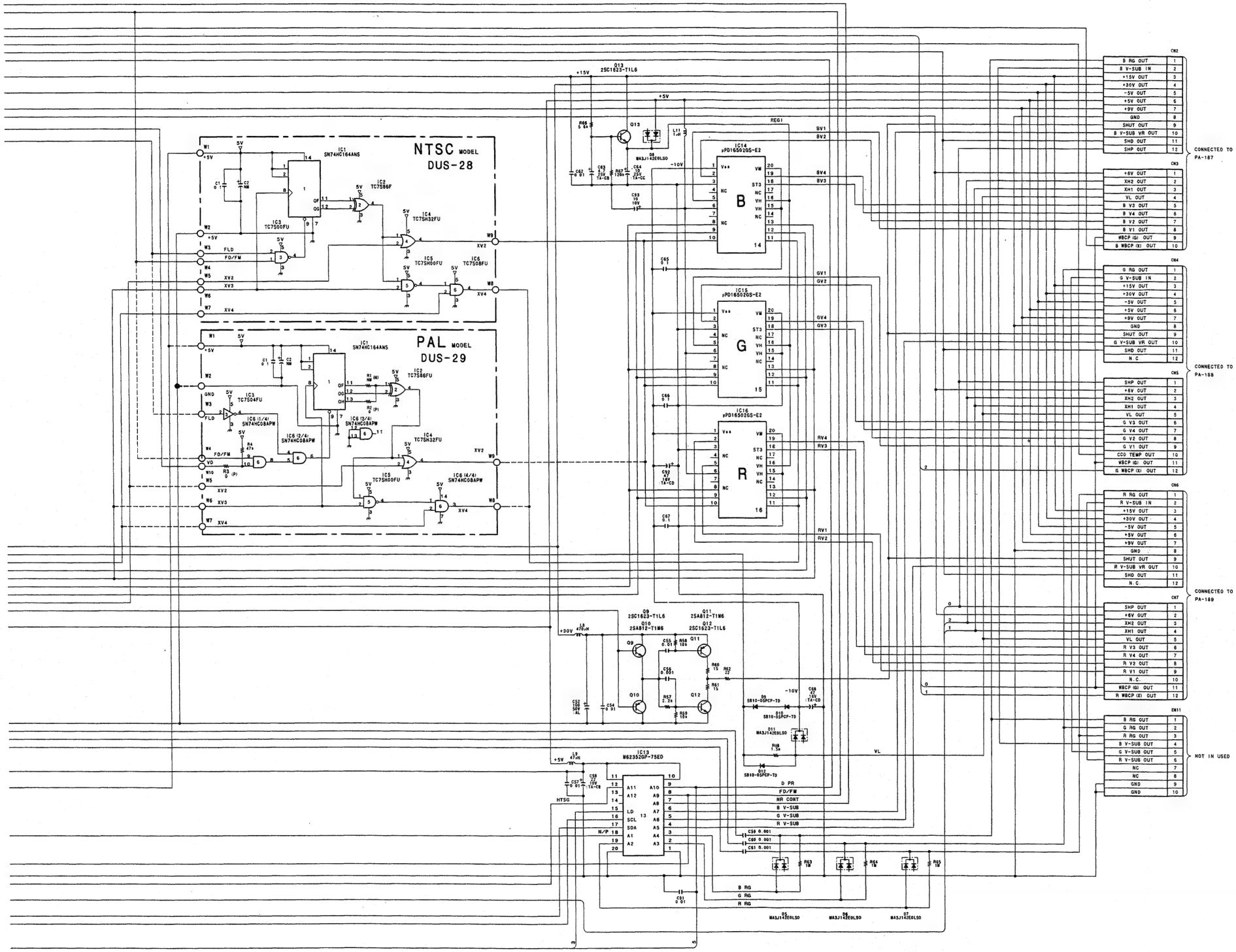
PA-187(B)
PART NO. 1-663-011-11
PA-188(G)
PART NO. 1-663-012-11
PA-189(R)
PART NO. 1-663-013-11
MODEL DXC-D30/D30P
A-DXCD30-PA/M



5-4 5-4

DXC-D30 (J/UC)
DXC-D30P (CE)

A B C D E F G H

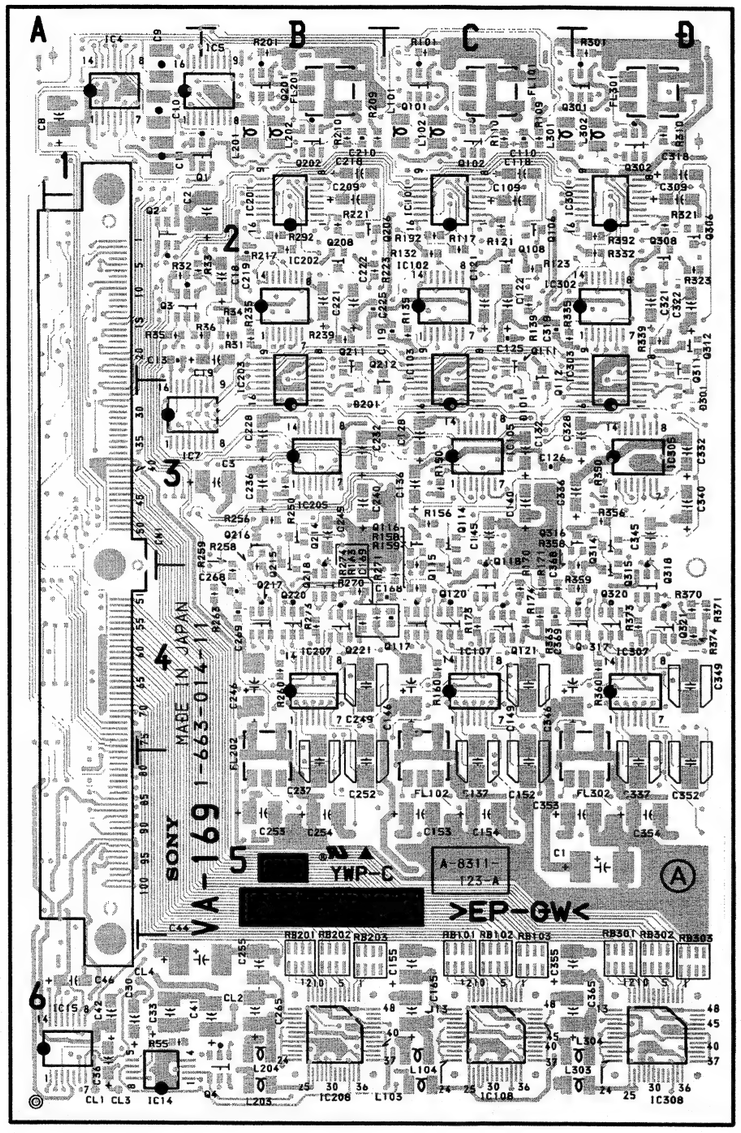


TG-175/175(P)
PART NO. 1-663-010-11
MODEL DXC-D30/D30P
B-DXCD30-TG175/M

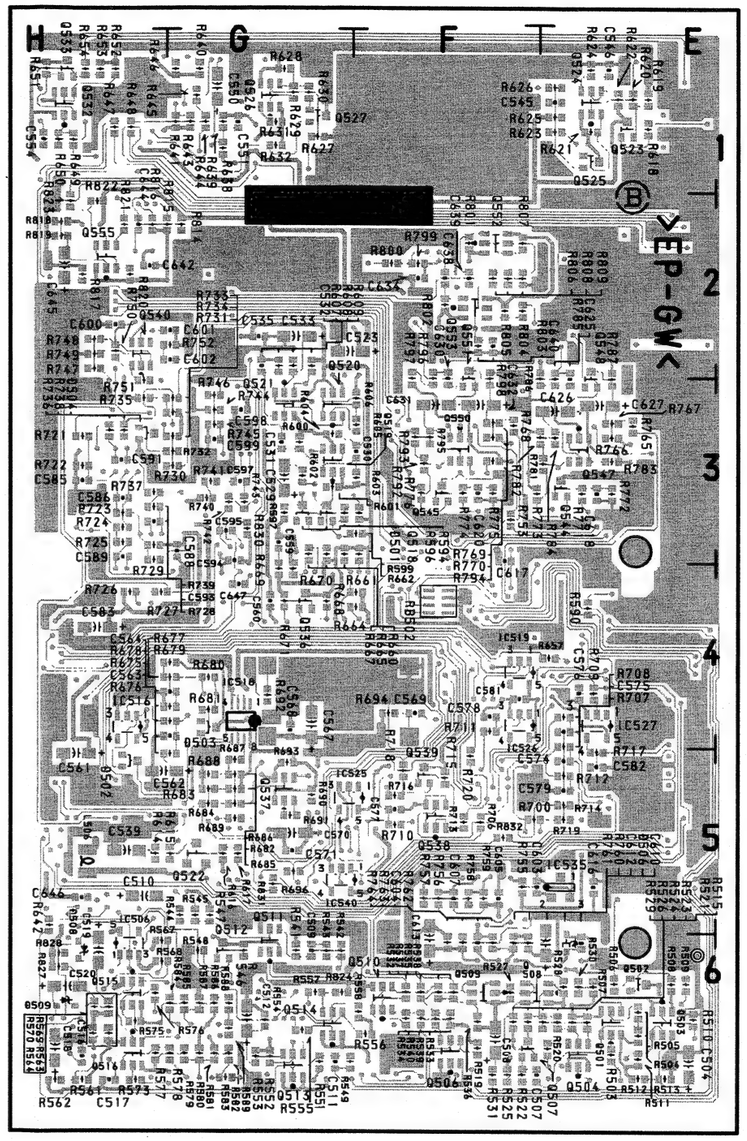
DXC-D30 (J/UC)
DXC-D30P (CE)

5-5 5-5

VA-169 BOARD



1-663-014-11 A SIDE

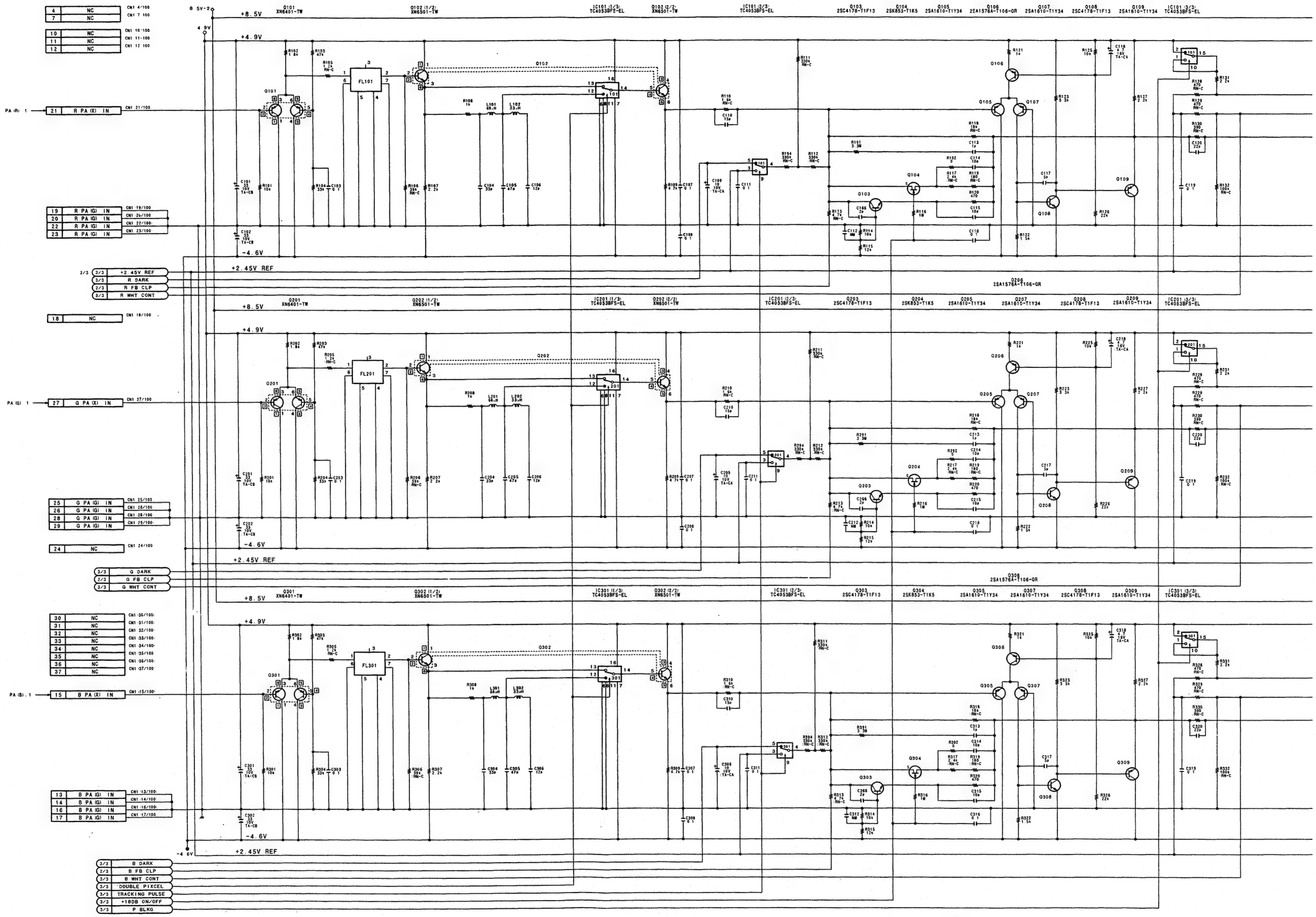


1-663-014-11 B SIDE

VA-169 (1-663-014-11)

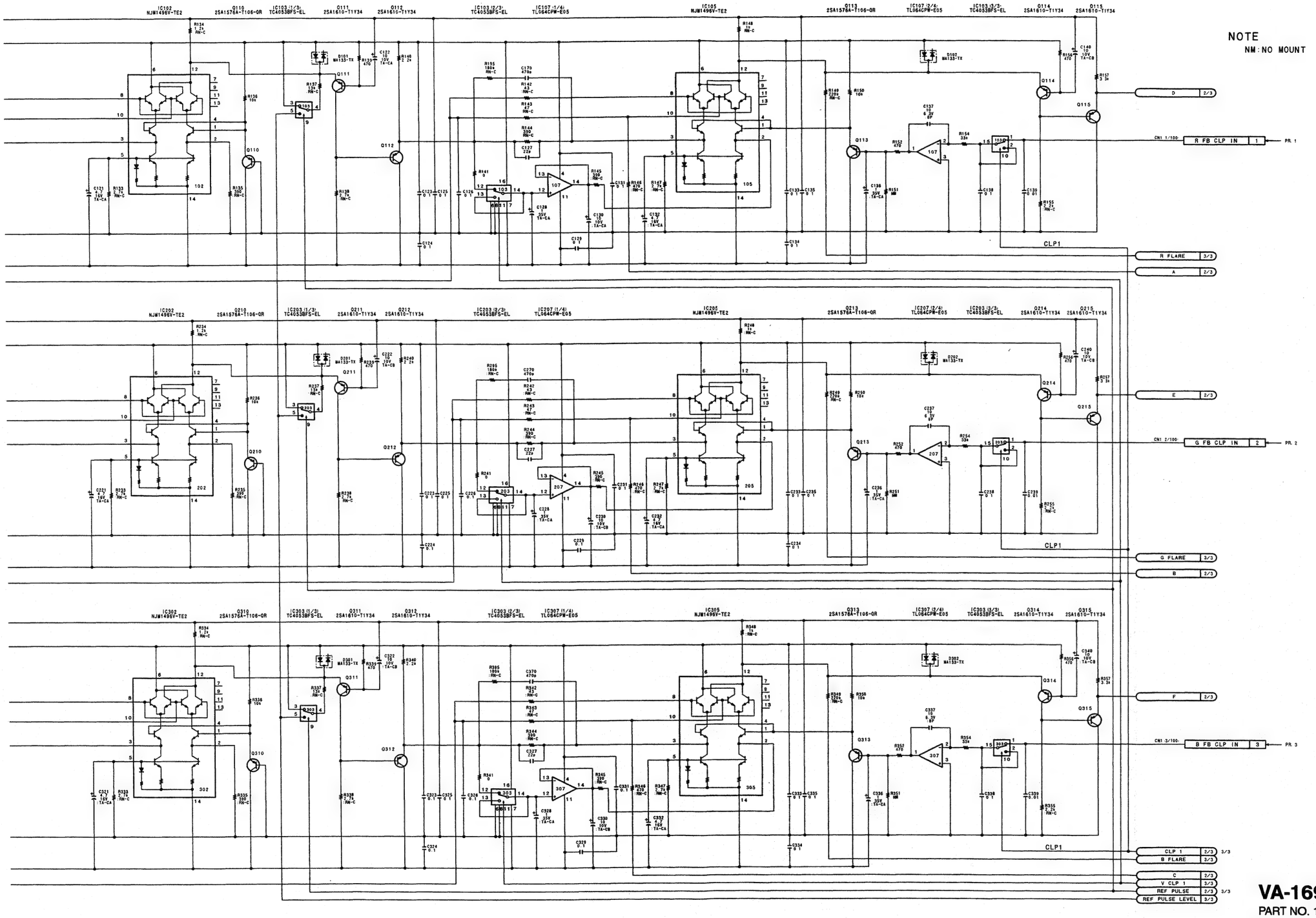
*: B SIDE

CN1	A3	*Q7	B5	RB102	C6
		*Q8	B6	RB103	C6
*D1	A1	*Q9	A5	RB201	B6
*D4	B5	Q101	C1	RB202	B6
*D5	A5	Q102	C1	RB203	B6
D101	C3	*Q103	C2	RB301	D6
*D102	C3	*Q104	C2	RB302	D6
D201	B3	*Q105	C2	RB303	D6
*D202	B3	Q106	C2		
D301	D3	*Q107	C2		
*D302	D3	Q108	C2		
		*Q109	C2		
FL101	C1	*Q110	C2		
FL201	B1	Q111	C2		
FL301	D1	Q112	C2		
		*Q113	C3		
*IC1	A3	Q114	C3		
*IC2	A4	Q115	C4		
*IC3	A2	Q116	C3		
IC4	A1	Q117	C4		
IC5	B1	Q118	C4		
IC7	A3	*Q119	C4		
*IC9	A2	Q120	C4		
*IC10	A2	Q121	C4		
*IC11	A3	Q201	B1		
*IC12	A4	Q202	B1		
*IC13	A5	*Q203	B2		
IC14	A6	*Q204	B2		
IC15	A6	*Q205	B2		
IC101	C2	Q206	B2		
IC102	C2	*Q207	B2		
IC103	C2	Q208	B2		
IC105	C3	*Q209	B2		
*IC106	C5	*Q210	B2		
IC107	C4	Q211	B2		
IC108	C6	Q212	B3		
IC201	B2	*Q213	B3		
IC202	B2	Q214	B3		
IC203	B2	Q215	B3		
IC205	B3	Q216	B3		
*IC206	B5	Q217	B4		
IC207	B4	Q218	B4		
IC208	B6	*Q219	B4		
IC301	D2	Q220	B4		
IC302	D2	Q221	B4		
IC303	D2	Q301	D1		
IC305	D3	Q302	D1		
*IC306	D5	*Q303	D2		
IC307	D4	*Q304	D2		
IC308	D6	*Q305	D2		
		Q306	D2		
*L1	A6	*Q307	D2		
L101	C1	Q308	D2		
L102	C1	*Q309	D2		
L103	C6	*Q310	D2		
L104	C6	Q311	D2		
L201	B1	Q312	D2		
L202	B1	*Q313	D3		
L203	B6	Q314	D3		
L204	B6	Q315	D4		
L301	C1	Q316	D3		
L302	D1	Q317	D4		
L303	D6	Q318	D4		
L304	D6	*Q319	D4		
		Q320	D4		
Q1	B1	Q321	D4		
Q2	A2				
Q3	A2	*RB1	A3		
Q4	B6	*RB2	A3		
*Q6	A6	RB101	C6		

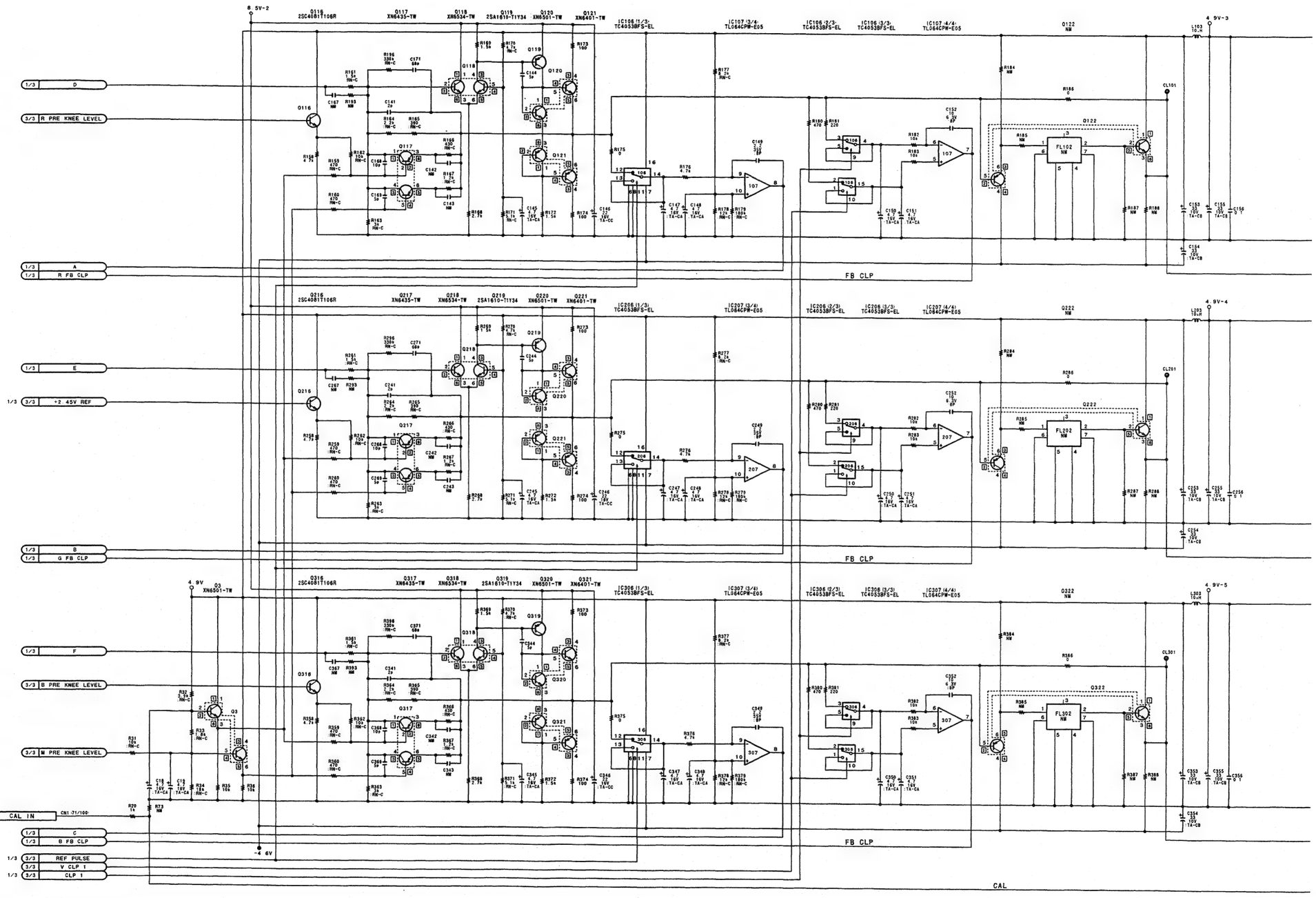


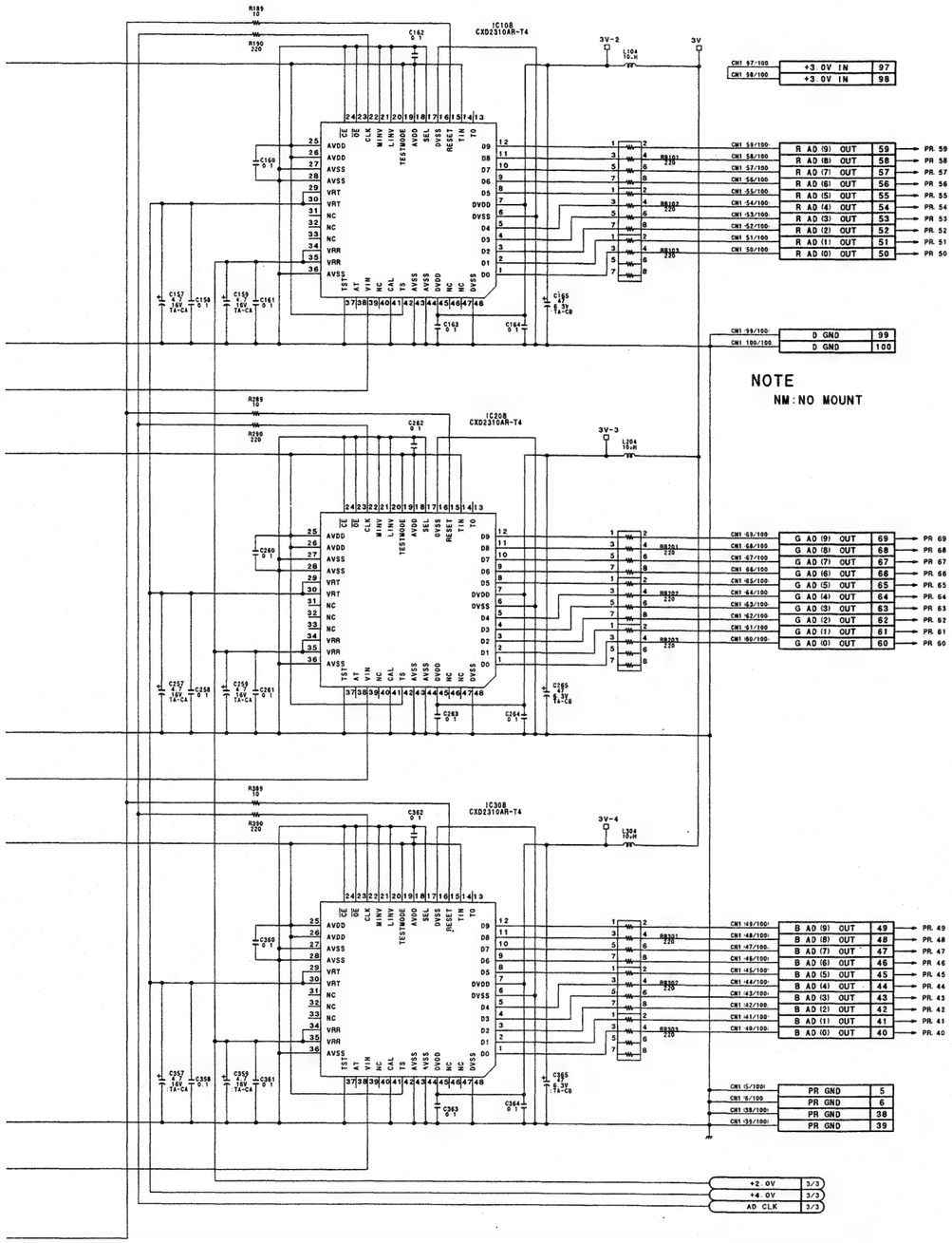
5-8 5-8

DXC-D30 (J/UC)
DXC-D30P (CE)



VA-169(1/3)
PART NO. 1-663-014-11
MODEL DXC-D30/D30P
B-DXCD30-VA169/M

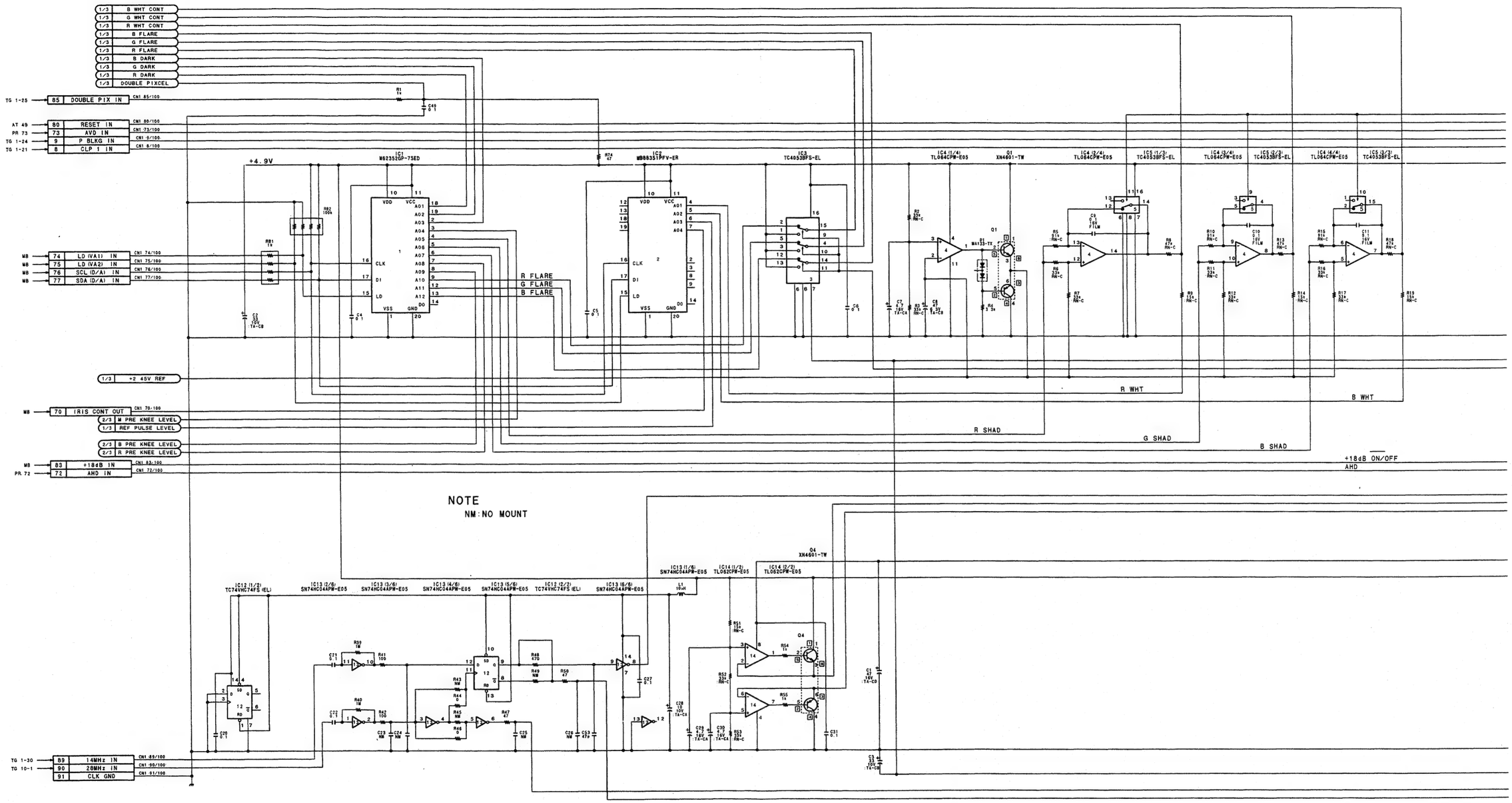

8.5V-2
4.9V-3
4.9V-4
4.9V-5
1/3 D
3/3 R PRE KNEE LEVEL
1/3 A
1/3 R FB CLP
1/3 E
1/3 3/3 +2.45V REF
1/3 B
1/3 G FB CLP
3/3 F
3/3 B PRE KNEE LEVEL
3/3 M PRE KNEE LEVEL
MB 71 CAL IN CN1-71/100-
1/3 C
1/3 B FB CLP
1/3 3/3 REF PULSE
1/3 3/3 V CLP 1
1/3 3/3 CLP 1
-4.6V
FB CLP
FB CLP
FB CLP
CAL
Q116 2SC4081T106R
Q117 XN6435-TW
Q118 XN6534-TW
Q119 2SA1610-T1Y34
Q120 XN6501-TW
Q121 XN6401-TW
IC106 (1/3) TC4053BFS-EL
IC107 (3/4) TLG64CPM-E05
IC106 (2/3) TC4053BFS-EL
IC106 (3/3) TC4053BFS-EL
IC107 (4/4) TLG64CPM-E05
Q122 NM
L103 10uH
CL101
FL102 NM
Q216 2SC4081T106R
Q217 XN6435-TW
Q218 XN6534-TW
Q219 2SA1610-T1Y34
Q220 XN6501-TW
Q221 XN6401-TW
IC206 (1/3) TC4053BFS-EL
IC207 (3/4) TLG64CPM-E05
IC206 (2/3) TC4053BFS-EL
IC206 (3/3) TC4053BFS-EL
IC207 (4/4) TLG64CPM-E05
Q222 NM
L203 10uH
CL201
FL202 NM
Q316 2SC4081T106R
Q317 XN6435-TW
Q318 XN6534-TW
Q319 2SA1610-T1Y34
Q320 XN6501-TW
Q321 XN6401-TW
IC306 (1/3) TC4053BFS-EL
IC307 (3/4) TLG64CPM-E05
IC306 (2/3) TC4053BFS-EL
IC306 (3/3) TC4053BFS-EL
IC307 (4/4) TLG64CPM-E05
Q322 NM
L303 10uH
CL301
FL302 NM
Q3 XN6501-TW

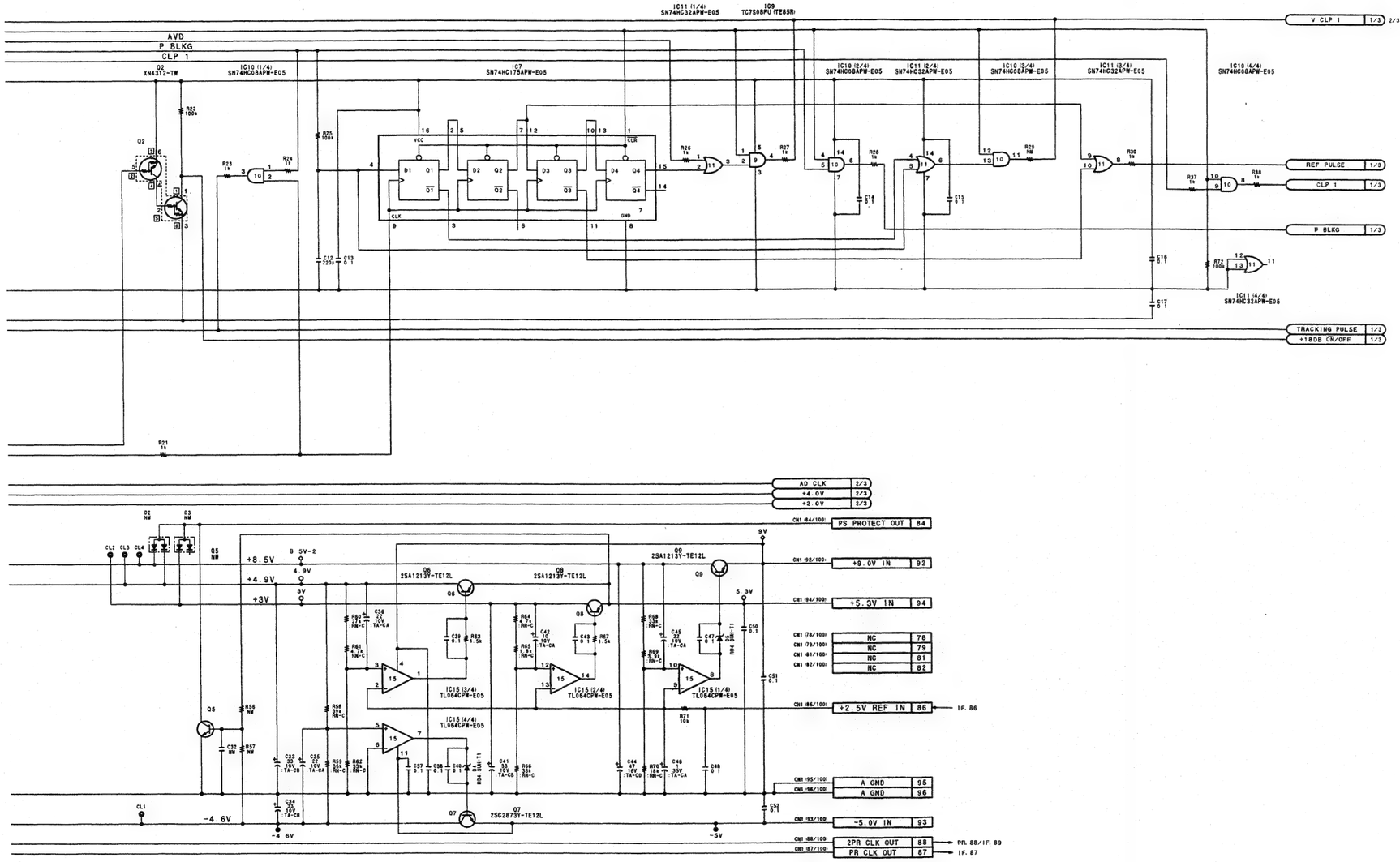


NOTE
NM:NO MOUNT

VA-169(2/3)

PART NO. 1-663-014-11
MODEL DXC-D30/D30P
B-DXCD30-VA169/M

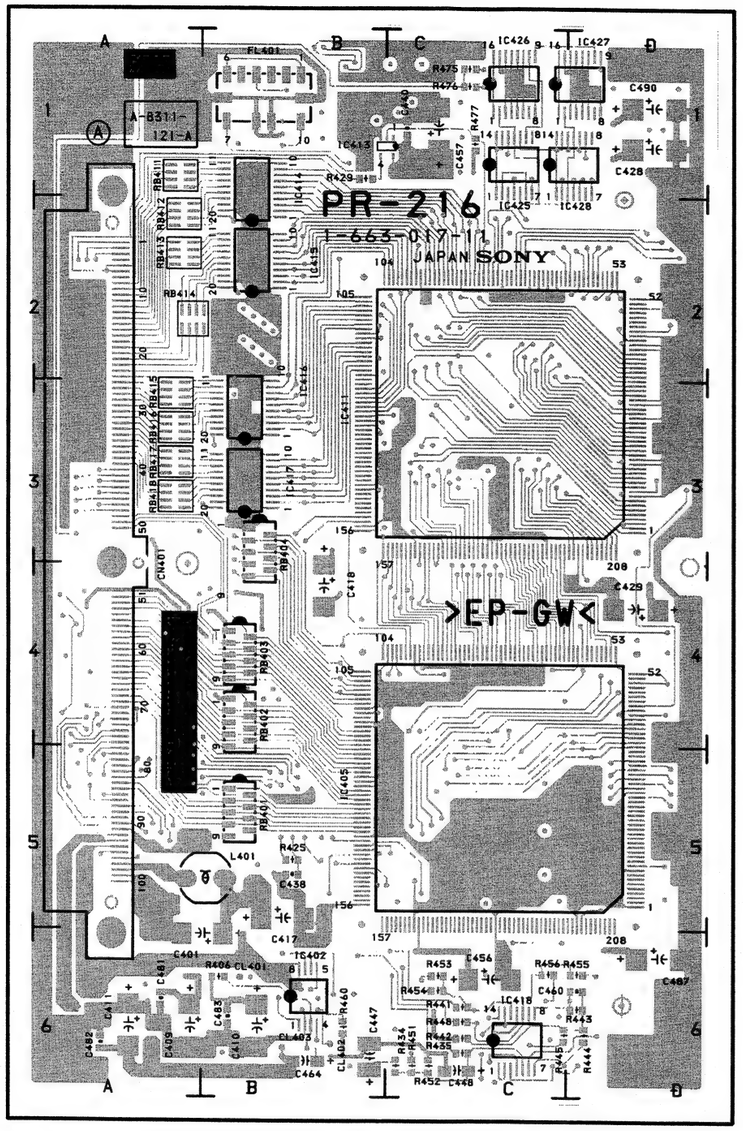

1/3 B WHT CONT
1/3 G WHT CONT
1/3 R WHT CONT
1/3 B FLARE
1/3 G FLARE
1/3 R FLARE
1/3 B DARK
1/3 G DARK
1/3 R DARK
1/3 DOUBLE PIXCEL
TG 1-25 85 DOUBLE PIX IN CN1 85/100
AT 49 80 RESET IN CN1 80/100
PR 73 73 AVD IN CN1 73/100
TG 1-24 9 P BLKG IN CN1 9/100
TG 1-21 8 CLP 1 IN CN1 8/100
MB 74 LD (VA1) IN CN1 74/100
MB 75 LD (VA2) IN CN1 75/100
MB 76 SCL (D/A) IN CN1 76/100
MB 77 SDA (D/A) IN CN1 77/100
+4.9V
IC1 M62352GP-75ED
IC2 MB88351PFV-ER
IC3 TC4053BFS-EL
IC4 (1/4) TL064CPW-E05
Q1 XN4601-TW
IC5 (1/3) TC4053BFS-EL
IC4 (2/4) TL064CPW-E05
IC4 (3/4) TL064CPW-E05
IC5 (2/3) TC4053BFS-EL
IC4 (4/4) TL064CPW-E05
IC5 (3/3) TC4053BFS-EL
R FLARE
G FLARE
B FLARE
R WHT
B WHT
R SHAD
G SHAD
B SHAD
1/3 +2.45V REF
MB 70 IRIS CONT OUT CN1 70/100
2/3 W PRE KNEE LEVEL
1/3 REF PULSE LEVEL
2/3 B PRE KNEE LEVEL
2/3 R PRE KNEE LEVEL
MB 83 +18dB IN CN1 83/100
PR 72 72 AHD IN CN1 72/100
+18dB ON/OFF
AHD
NOTE
NM : NO MOUNT
IC12 (1/2) TC74VHC74FS (EL)
IC13 (2/6) SN74HC04APW-E05
IC13 (3/6) SN74HC04APW-E05
IC13 (4/6) SN74HC04APW-E05
IC13 (5/6) SN74HC04APW-E05
IC12 (2/2) TC74VHC74FS (EL)
IC13 (6/6) SN74HC04APW-E05
IC13 (1/6) SN74HC04APW-E05
IC14 (1/2) TL062CPW-E05
IC14 (2/2) TL062CPW-E05
Q4 XN4601-TW
TG 1-30 89 14MHz IN CN1 89/100
TG 10-1 90 28MHz IN CN1 90/100
91 CLK GND CN1 91/100



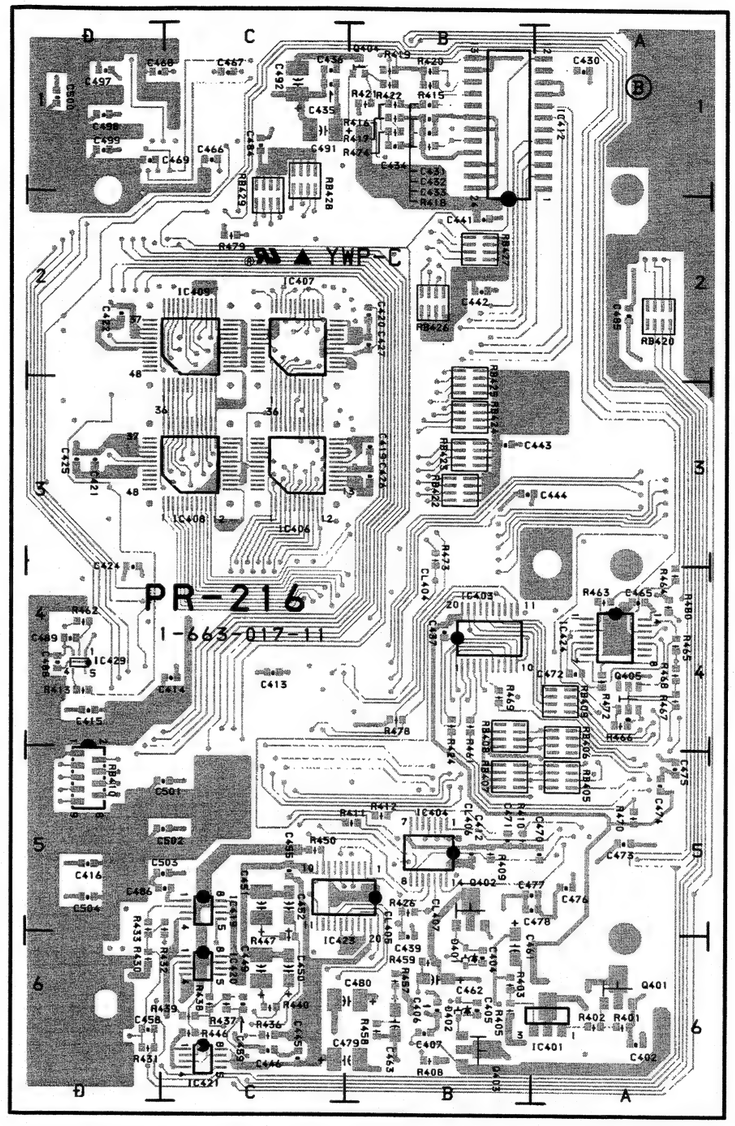
VA-169(3/3)

PART NO. 1-663-014-11
MODEL DXC-D30/D30P
B-DXCD30-VA169/M

PR-216 BOARD



1-663-017-11 A SIDE

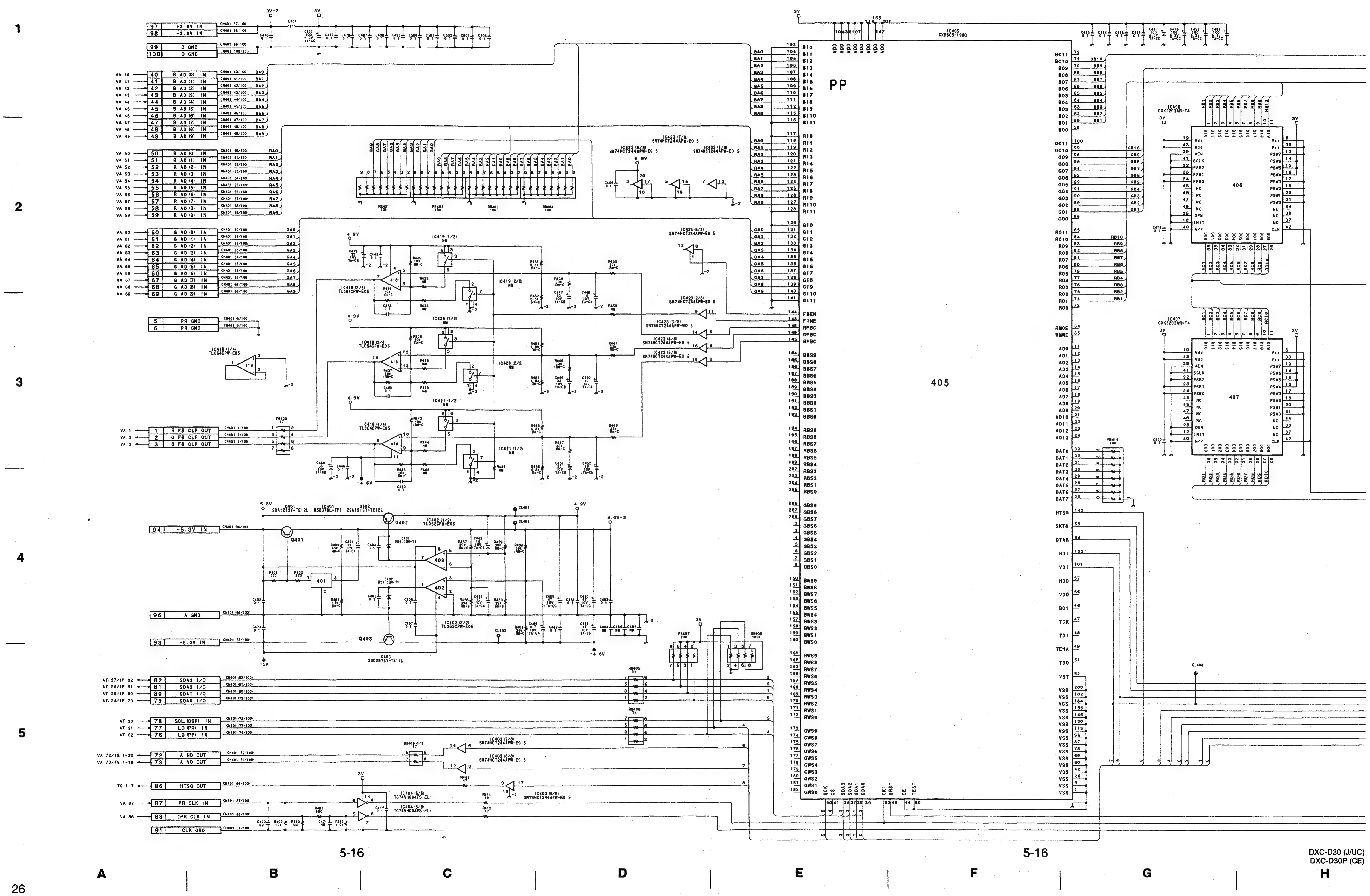


1-663-017-11 B SIDE

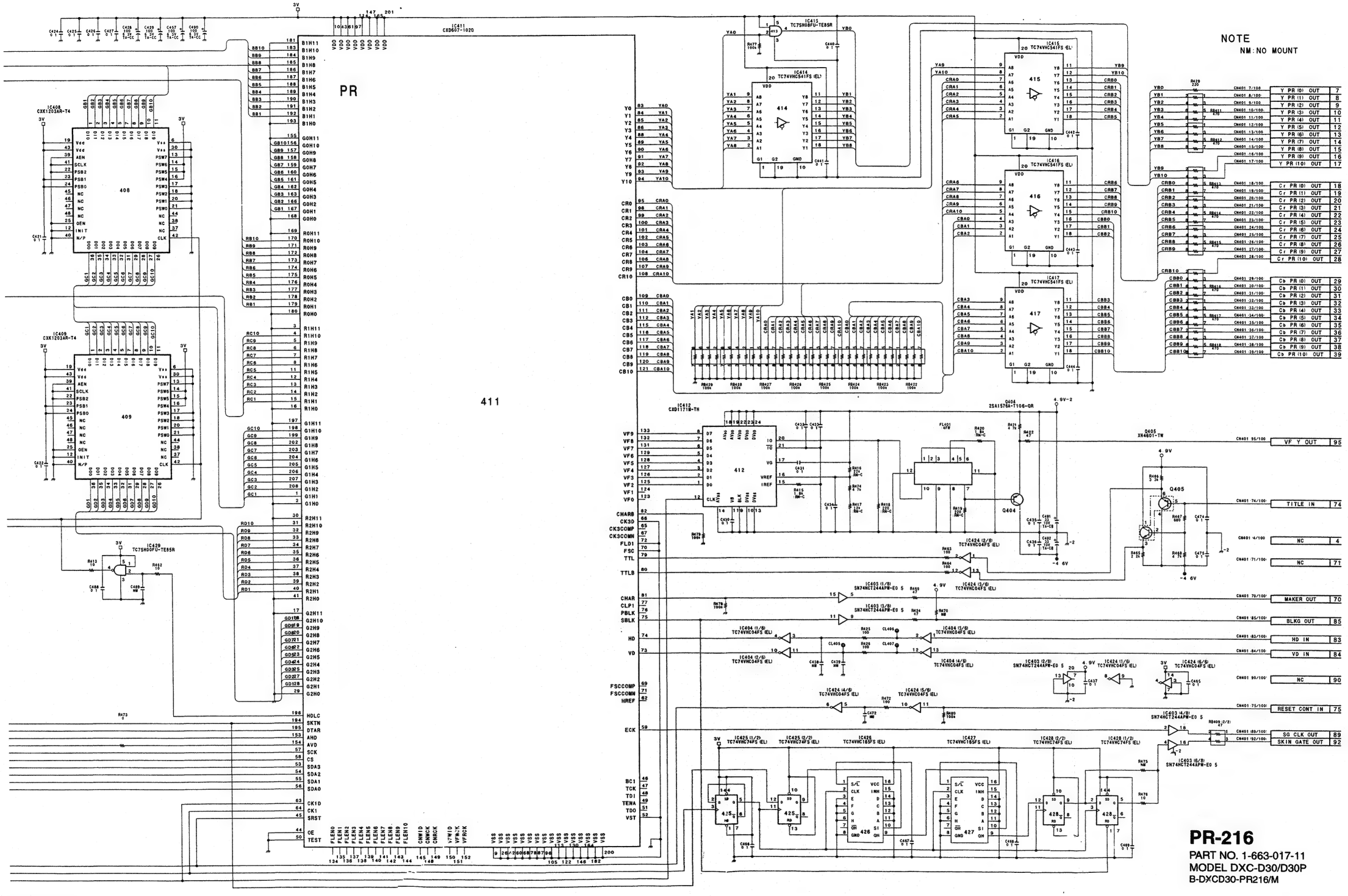
PR-216 (1-663-017-11)

*: B SIDE

CN401	A3
*D401	B6
*D402	B6
FL401	B1
*IC401	A6
IC402	B6
*IC403	B4
*IC404	B5
IC405	C5
*IC406	C3
*IC407	C2
*IC408	C3
*IC409	C2
IC411	C3
*IC412	B1
IC413	B1
IC414	B1
IC415	B2
IC416	B3
IC417	B3
IC418	C6
*IC423	C5
*IC424	A4
IC425	C1
IC426	C1
IC427	D1
IC428	D1
*IC429	D4
L401	B5
*Q401	A6
*Q402	B5
*Q403	B6
*Q404	B1
*Q405	A4
RB401	B5
RB402	B4
RB403	B4
RB404	B3
*RB405	A5
*RB406	A4
*RB407	B5
*RB408	B4
*RB409	A4
*RB410	D5
RB411	A1
RB412	A2
RB413	A2
RB414	A2
RB415	A3
RB416	A3
RB417	A3
RB418	A3
*RB420	A2
*RB422	B3
*RB423	B3
*RB424	B3
*RB425	B3
*RB426	B2
*RB427	B2
*RB428	C1
*RB429	C2



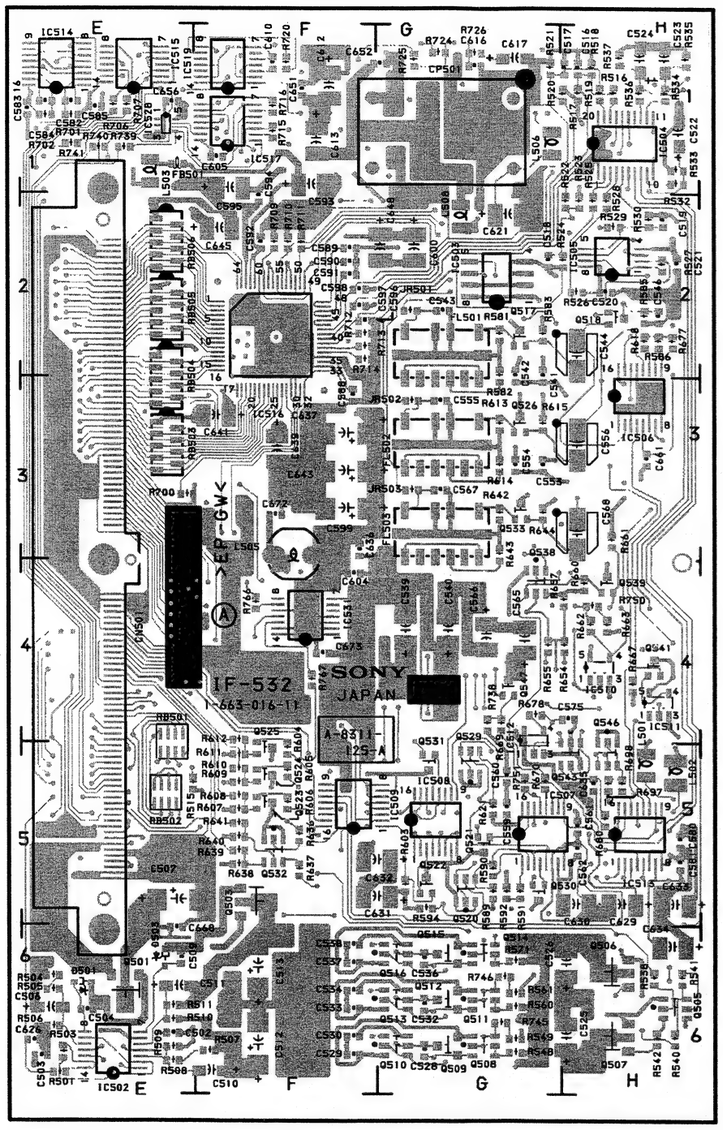
DXC-D30 (J/UC)
DXC-D30P (CE)



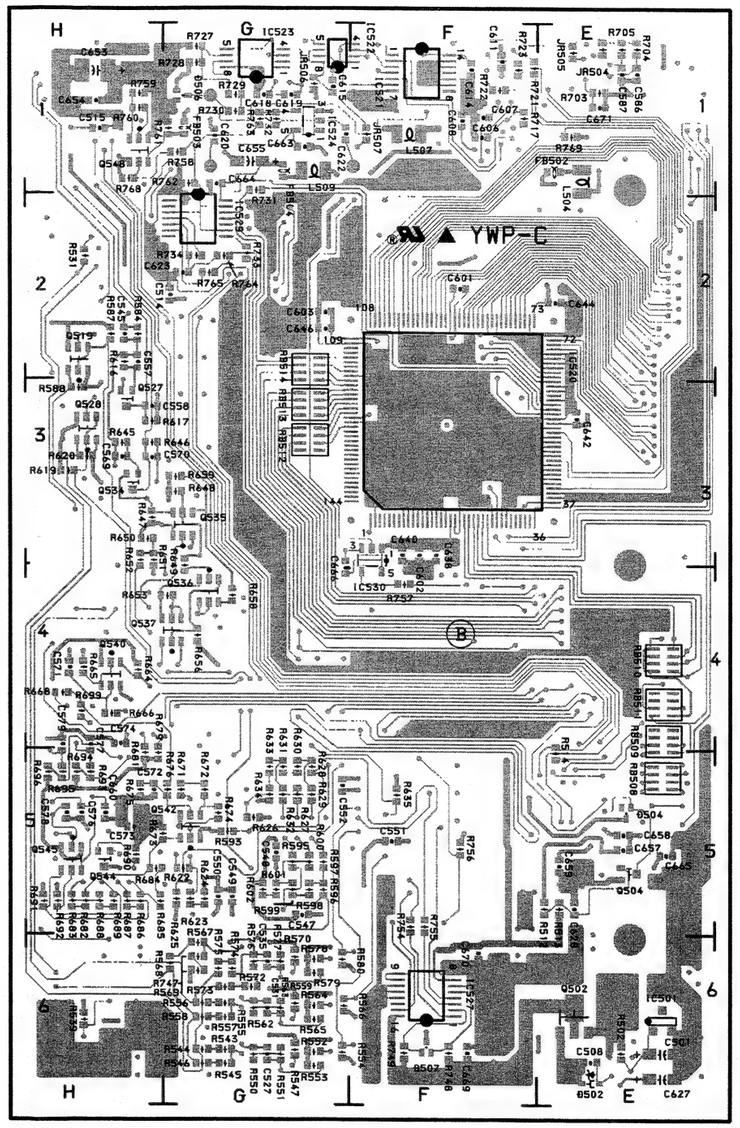
PR-216
PART NO. 1-663-017-11
MODEL DXC-D30/D30P
B-DXCD30-PR216/M

DXC-D30 (J/UC)
DXC-D30P (CE)

IF-532 BOARD



1-663-016-11 A SIDE

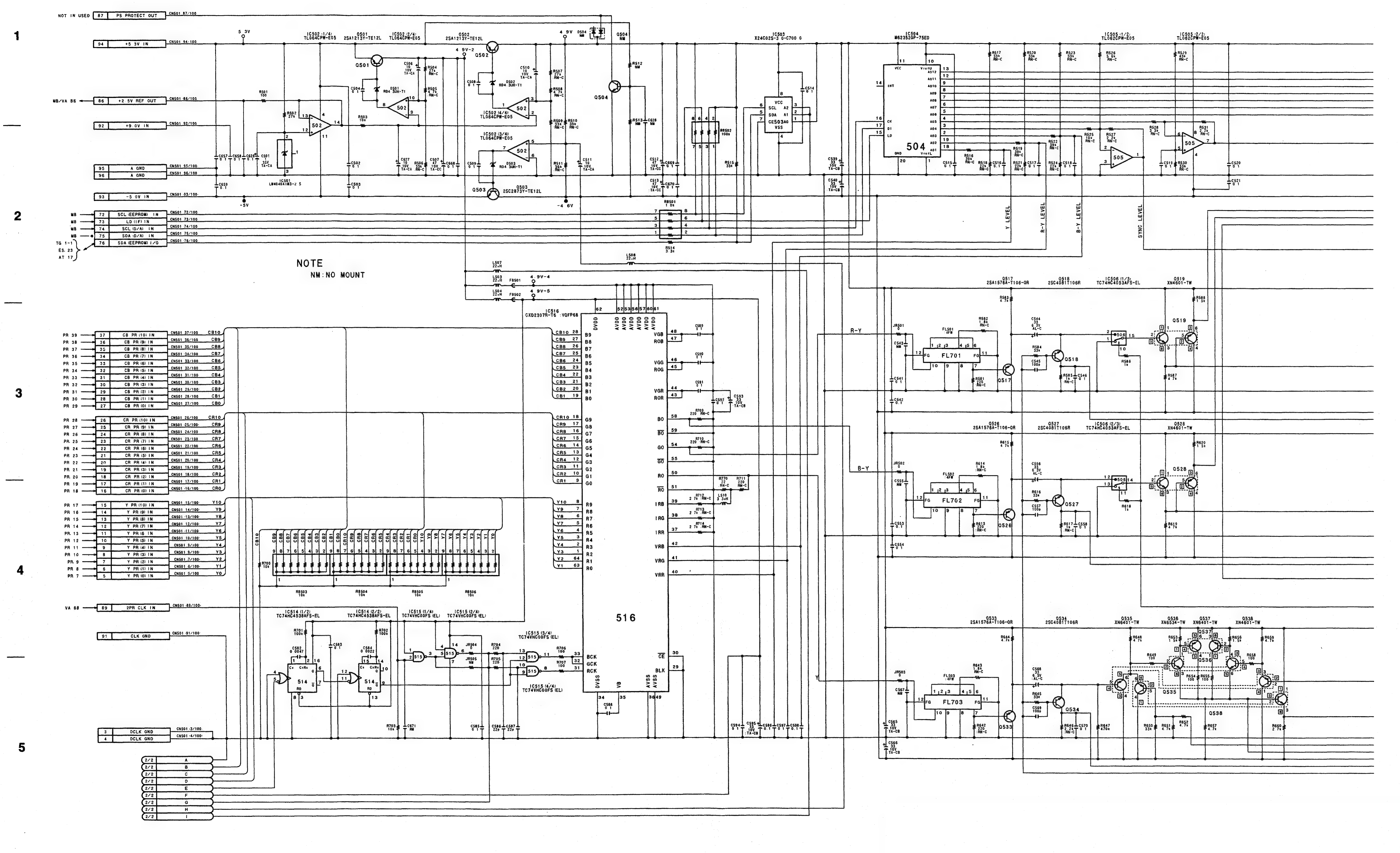


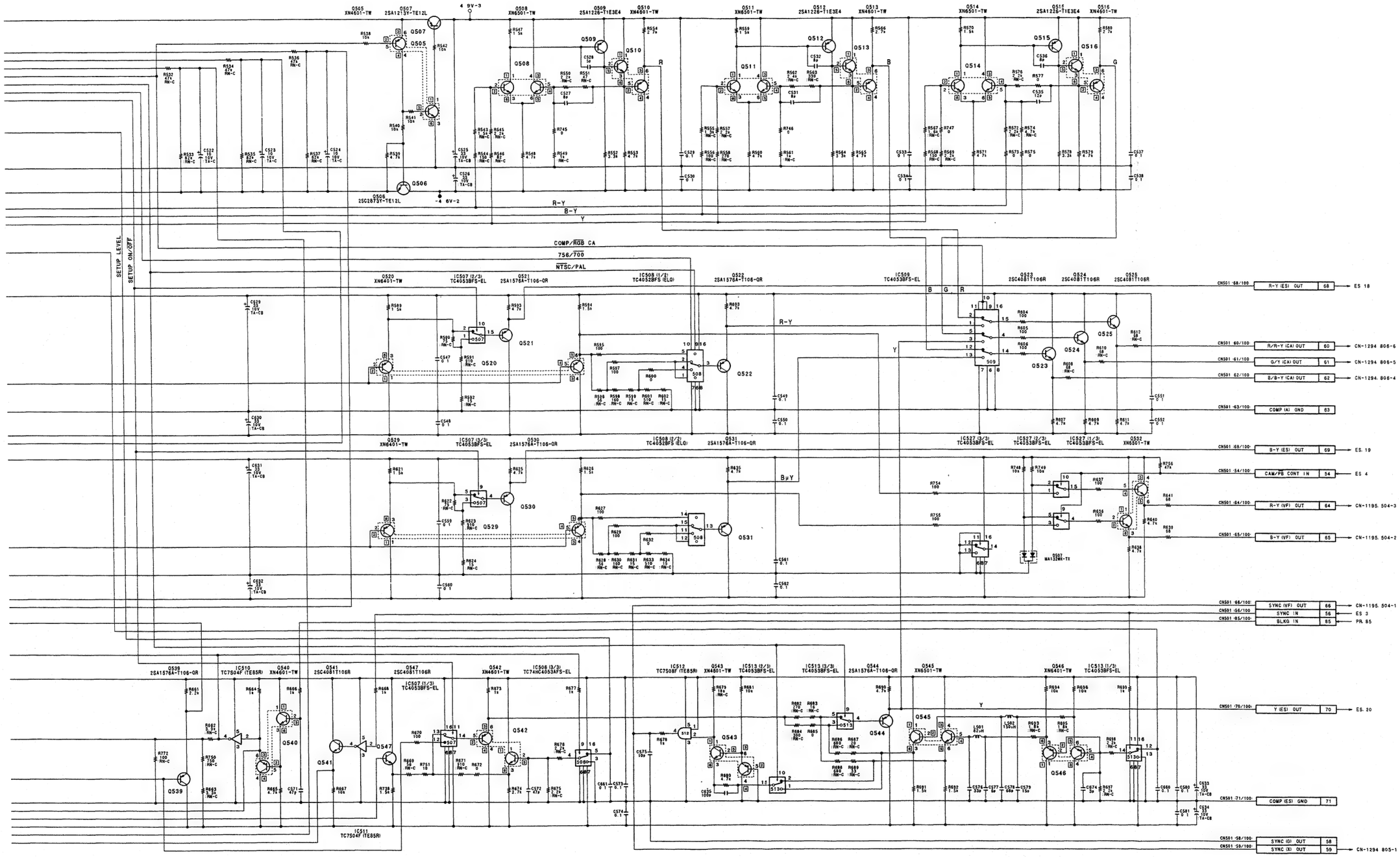
1-663-016-11 B SIDE

IF-532 (1-663-016-11)

*: B SIDE

CN501	E3	Q508	G6
		Q509	G6
CP501	G1	Q510	G6
		Q511	G6
D501	E6	Q512	G6
*D502	E6	Q513	G6
D503	E6	Q514	G6
*D506	G1	Q515	G6
*D507	F6	Q516	G6
		Q517	G2
FB501	E1	Q518	H2
*FB502	E1	*Q519	H2
*FB503	G1	Q520	G5
*FB504	G1	Q521	G5
		Q522	G5
FL501	G2	Q523	F5
FL502	G3	Q524	F5
FL503	G3	Q525	F5
		Q526	G3
*IC501	E6	*Q527	H3
IC502	E6	*Q528	H3
IC503	G2	Q529	G5
IC504	H1	Q530	G5
IC505	H2	Q531	G5
IC506	H3	Q532	F5
IC507	G5	Q533	G3
IC508	G5	*Q534	H3
IC509	F5	*Q535	G3
IC510	H4	*Q536	G4
IC511	H4	*Q537	G4
IC512	G4	Q538	G4
IC513	H5	Q539	H4
IC514	E1	*Q540	H4
IC515	E1	Q541	H4
IC516	F2	*Q542	G5
IC517	F1	Q543	H5
IC519	F1	*Q544	H5
*IC520	F3	*Q545	H5
*IC521	F1	Q546	H5
*IC522	G1	Q547	G4
*IC523	G1	*Q548	H1
*IC524	G1		
*IC527	F6	RB501	E4
*IC529	G2	RB502	E5
*IC530	F3	RB503	E3
IC531	F4	RB504	E3
		RB505	E2
JR501	G2	RB506	E2
JR502	G3	*RB508	E5
JR503	G3	*RB509	E4
*JR504	E1	*RB510	E4
*JR506	G1	*RB511	E4
		*RB512	G3
L501	H5	*RB513	G3
L502	H5	*RB514	G2
L503	E1		
*L504	E1		
L505	F3		
L506	G1		
*L507	F1		
L508	G2		
*L509	G1		
Q501	E6		
*Q502	E6		
Q503	F5		
Q505	H6		
Q506	H6		
Q507	H6		


NOTE
NM: NO MOUNT
504
505
516
FL701
FL702
FL703
Y LEVEL
R-Y LEVEL
B-Y LEVEL
SYNC LEVEL



IF-532(1/2)
PART NO. 1-663-016-11
MODEL DXC-D30/D30P
B-DXCD30-IF532/M

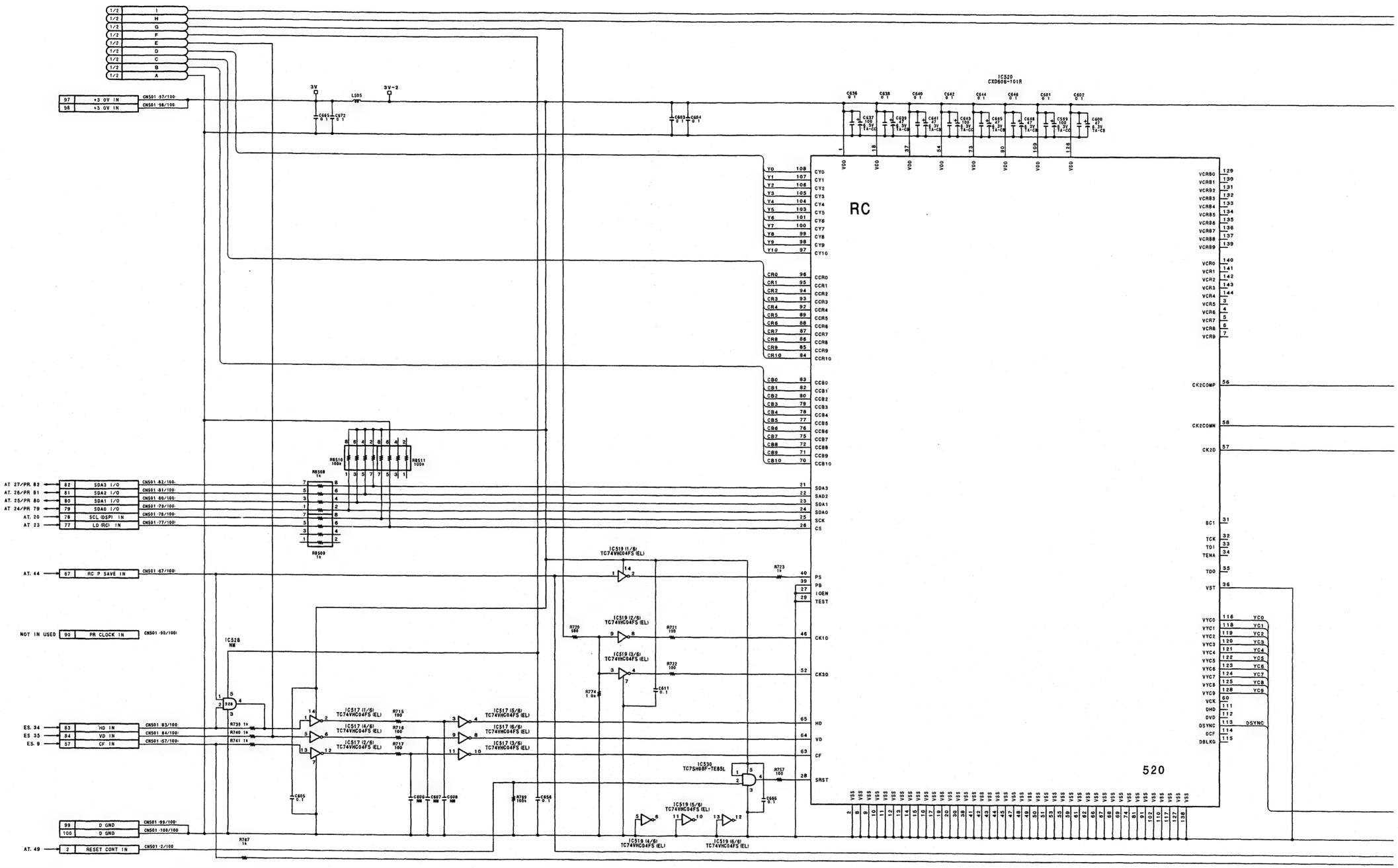
DXC-D30 (J/UC)
DXC-D30P (CE)

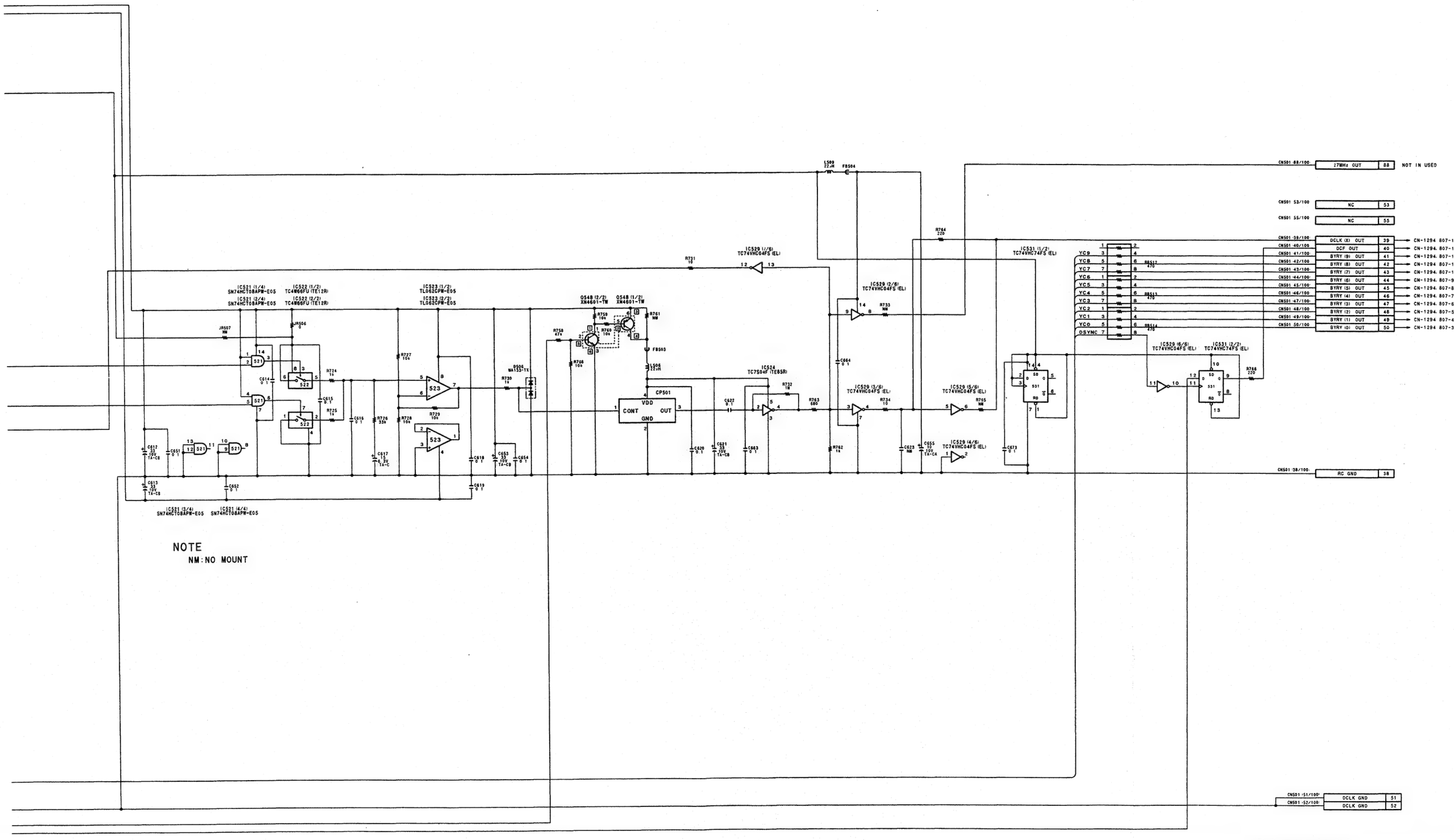
5-21 5-21

I J K L M N O P

1 2 3 4 5

31

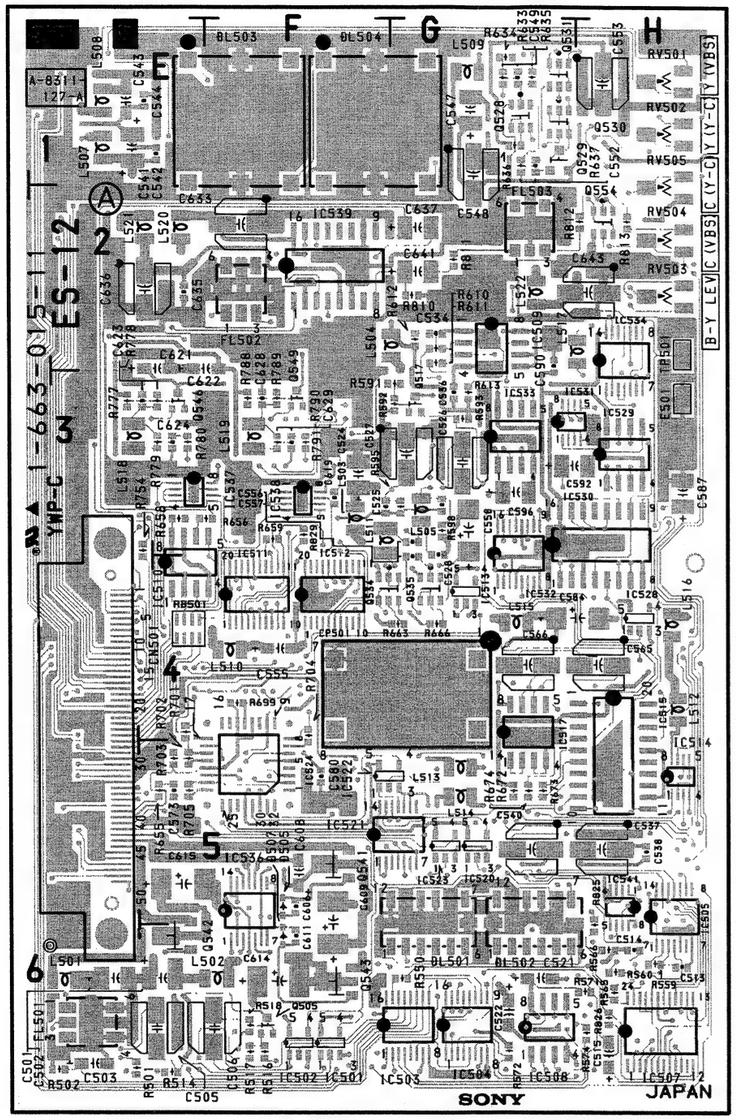

RC
520
IC520
CXD606-101R
IC528
NB
IC530
TC7SH08F-TE85L
IC517 (1/6) TC74VHC04FS (EL)
IC517 (2/6) TC74VHC04FS (EL)
IC517 (4/6) TC74VHC04FS (EL)
IC517 (5/6) TC74VHC04FS (EL)
IC517 (6/6) TC74VHC04FS (EL)
IC519 (1/6) TC74VHC04FS (EL)
IC519 (2/6) TC74VHC04FS (EL)
IC519 (3/6) TC74VHC04FS (EL)
IC519 (4/6) TC74VHC04FS (EL)
IC519 (5/6) TC74VHC04FS (EL)
IC519 (6/6) TC74VHC04FS (EL)
3V
3V-2
L505
SDA3 I/O
SDA2 I/O
SDA1 I/O
SDA0 I/O
SCL (DSP) IN
LD (RC) IN
RC P SAVE IN
PR CLOCK IN
HD IN
VD IN
CF IN
D GND
RESET CONT IN
+3.0V IN
CK2COMP
CK2COMN
CK2D
SDA3
SDA2
SDA1
SDA0
SCK
CS
PS
PB
IOEN
TEST
CK10
CK30
HD
VD
CF
SRST
DSYNC



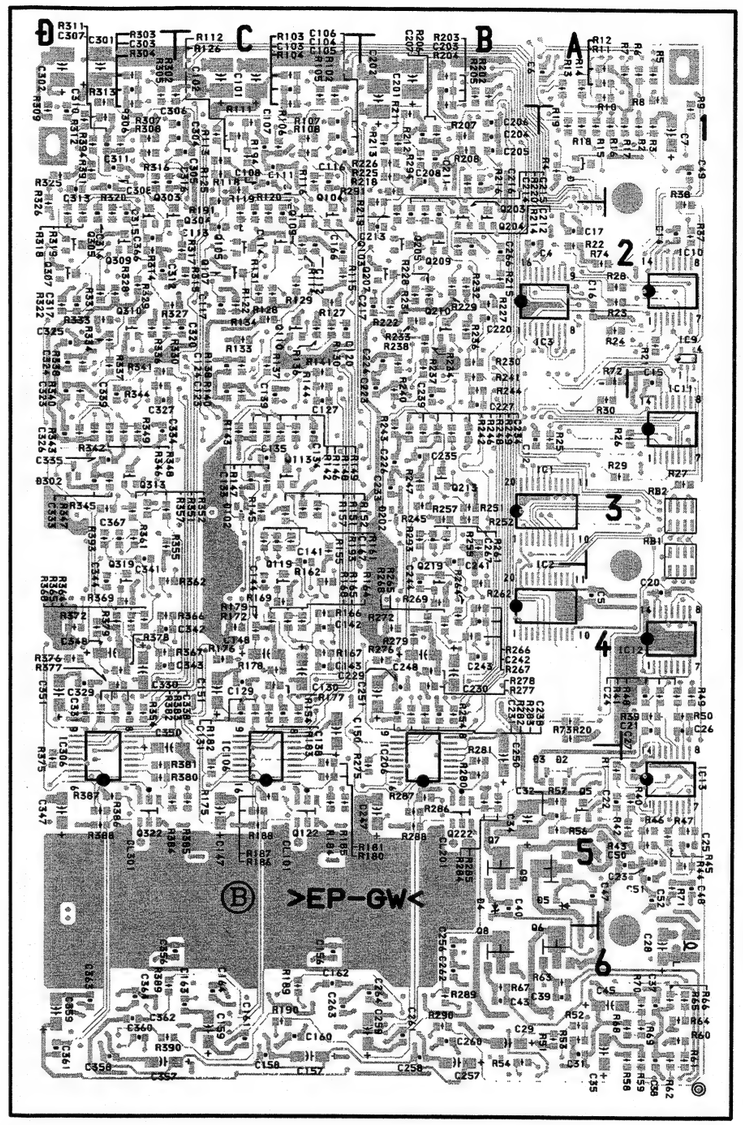
NOTE
NM: NO MOUNT

IF-532(2/2)
PART NO. 1-663-016-11
MODEL DXC-D30/D30P
B-DXCD30-IF532/M

ES-12/12(P) BOARD



1-663-016-11 A SIDE

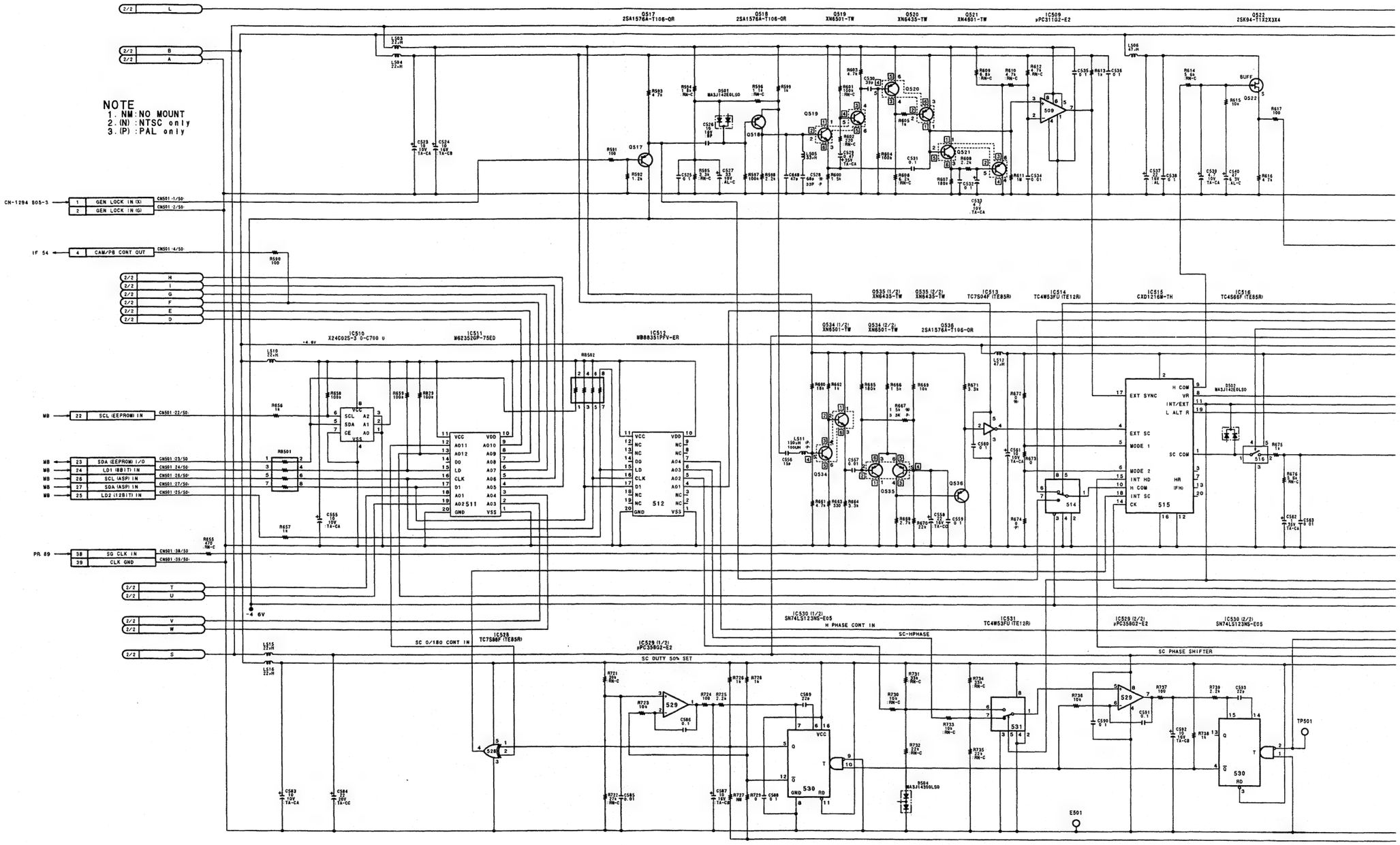


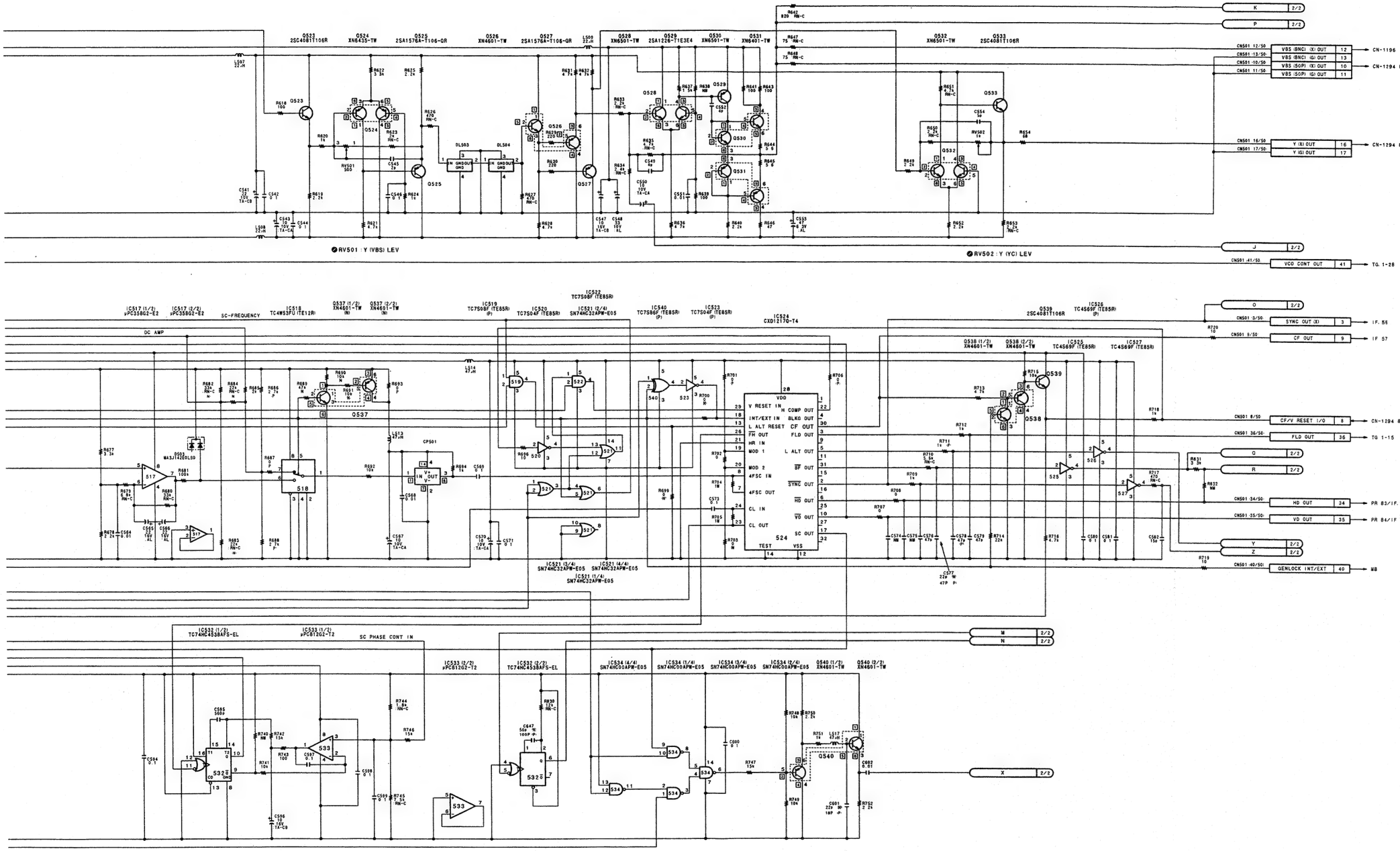
1-663-016-11 B SIDE

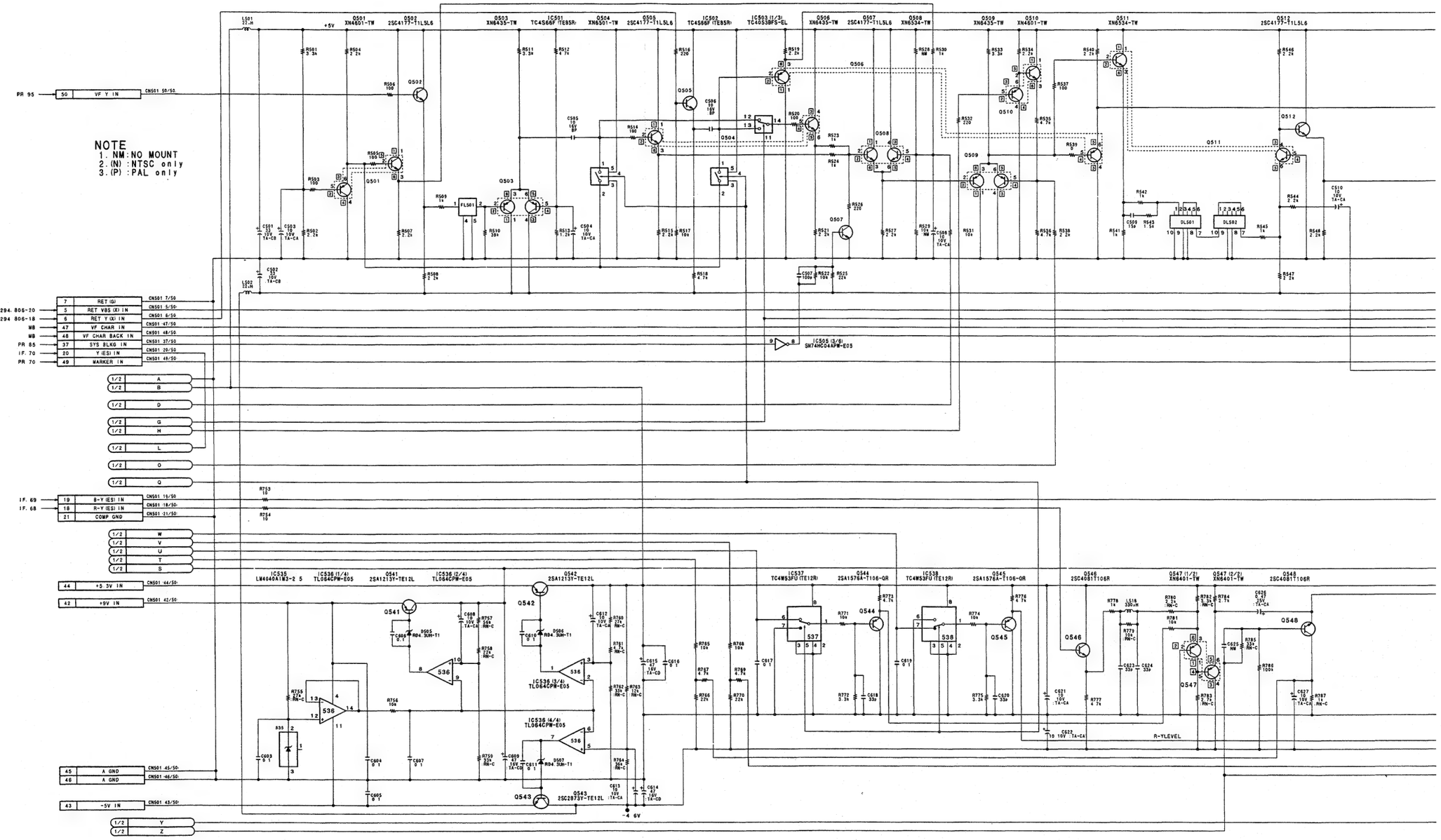
ES-12(P) (1-663-015-11)

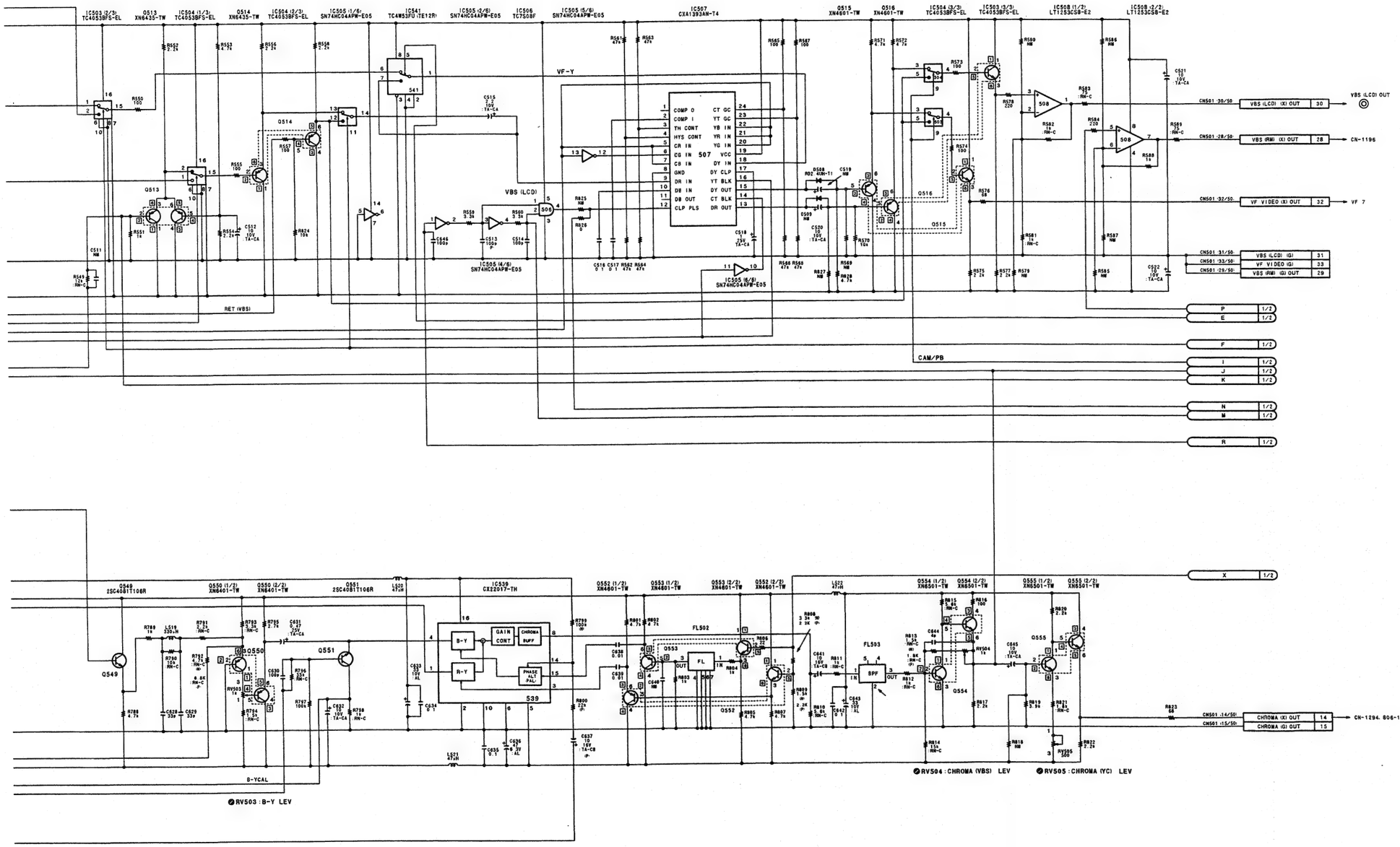
*: B SIDE

CN501	E4	L505	G3	*Q552	F2
		*L506	H5	*Q553	F2
CP501	G4	L507	E1	Q554	H2
		L508	E1	*Q555	H2
DL501	G5	L509	G1		
DL502	G5	L510	F4	RB501	E4
DL503	F1	L511	F3	*RB502	F4
DL504	F1	L512	H4		
		L513	G5	RV501	H1
*D501	G3	L514	G5	RV502	H1
*D502	H5	L515	G4	RV503	H2
*D503	G4	L516	H4	RV504	H2
*D504	H3	L517	H2	RV505	H2
D505	F5	L518	E3		
*D506	E6	L519	F3	TP501	H2
D507	F6	L520	E2		
*D508	H6	L521	E2		
		L522	G2		
E501	H3				
		*Q501	E6		
FL501	E6	*Q502	E6		
FL502	F2	*Q503	E6		
FL503	G2	*Q504	E6		
		Q505	F6		
IC501	F6	*Q506	F6		
IC502	F6	*Q507	F6		
IC503	G6	*Q508	F6		
IC504	G6	*Q509	F6		
IC505	H5	*Q510	F6		
IC507	H6	*Q511	G6		
IC508	G6	*Q512	G6		
IC509	G2	*Q513	G6		
IC510	E4	*Q514	G6		
IC511	F4	*Q515	H6		
IC512	F4	*Q516	H6		
IC513	G4	Q517	G3		
IC514	H5	*Q518	G3		
IC515	H5	*Q519	G3		
*IC516	H4	*Q520	G3		
IC517	G4	*Q521	G3		
*IC518	G4	*Q522	G5		
*IC519	F4	*Q523	E1		
IC520	G5	*Q524	E1		
IC521	G5	*Q525	E1		
IC522	F5	*Q526	G1		
IC523	G5	*Q527	G1		
IC524	F5	Q528	G1		
*IC525	G5	Q529	G1		
*IC526	F4	Q530	G1		
*IC527	E4	Q531	G1		
IC528	H4	*Q532	H1		
IC529	H3	*Q533	H1		
IC530	H3	Q534	F4		
IC531	G3	Q535	G4		
IC532	G3	*Q536	G4		
IC533	G3	*Q538	F5		
IC534	H2	*Q539	F5		
*IC535	E5	*Q540	H2		
IC536	F5	Q541	F5		
IC537	E3	Q542	E6		
IC538	F3	Q543	F6		
IC539	F2	*Q544	E3		
*IC540	G5	*Q545	F3		
IC541	H5	Q546	E3		
		*Q547	E3		
L501	E6	*Q548	E3		
L502	F6	Q549	F3		
L503	F3	*Q550	F3		
L504	G2	*Q551	F3		


NOTE
1. NM:NO MOUNT
2. (N) :NTSC only
3. (P) :PAL only
IC510 X24C02S-3 0-C700 G
IC511 M62352GP-75ED
IC512 MB88351PFV-ER
IC528 TC7S86F (TE85R)
IC529 (1/2) μPC358G2-E2
IC530 (1/2) SN74LS123NS-E05
IC530 (2/3) SN74LS123NS-E05
IC531 TC4W53FU (TE12R)
H PHASE CONT IN
SC-HPHASE
SC 0/180 CONT IN
SC DUTY 50% SET
SC PHASE SHIFTER
-4.6V
+4.6V
E501
TP501

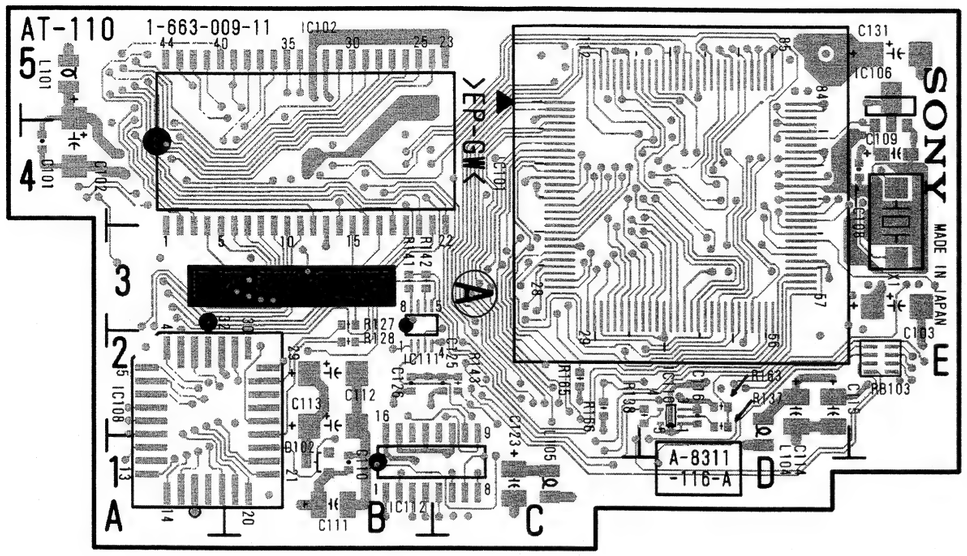

RV501 : Y (VBS) LEV
RV502 : Y (YC) LEV
VBS (BNC) (X) OUT
VBS (BNC) (G) OUT
VBS (SOP) (X) OUT
VBS (SOP) (G) OUT
Y (X) OUT
Y (G) OUT
VCO CONT OUT
SYNC OUT (X)
CF OUT
CF/V RESET I/O
FLD OUT
HD OUT
VD OUT
GENLOCK INT/EXT
SC-FREQUENCY
DC AMP
SC PHASE CONT IN
IC524 CXD1217Q-T4
VDD
V RESET IN
H COMP OUT
INT/EXT IN
BLKG OUT
L ALT RESET
CF OUT
FH OUT
FLD OUT
HR IN
MOD 1
L ALT OUT
MOD 2
BF OUT
4FSC IN
SYNC OUT
4FSC OUT
HD OUT
CL IN
VD OUT
CL OUT
SC OUT
TEST
VSS


NOTE
1. NM:NO MOUNT
2. (N) :NTSC only
3. (P) :PAL only
PR 95 50 VF Y IN CN501 50/50
CN-1294. 806-20 5 RET VBS (X) IN CN501 5/50
CN-1294 806-19 6 RET Y (R-Y) IN CN501 6/50
WB 47 VF CHAR IN CN501 47/50
WB 48 VF CHAR BACK IN CN501 48/50
PR 85 37 SYS BLKG IN CN501 37/50
I.F. 70 20 Y (ES) IN CN501 20/50
PR 70 49 MARKER IN CN501 49/50
7 RET (G) CN501 7/50
I.F. 69 19 B-Y (ES) IN CN501 19/50
I.F. 68 18 R-Y (ES) IN CN501 18/50
21 COMP GND CN501 21/50
44 +5.3V IN CN501 44/50
42 +9V IN CN501 42/50
45 A GND CN501 45/50
46 A GND CN501 46/50
43 -5V IN CN501 43/50
1/2 A
1/2 B
1/2 D
1/2 G
1/2 H
1/2 L
1/2 O
1/2 Q
1/2 W
1/2 V
1/2 U
1/2 T
1/2 S
1/2 Y
1/2 Z
+5V
-4.6V
Q501 XN4601-TW
Q502 2SC4177-T1L5L6
Q503 XN6435-TW
IC501 TC4S66F (TE85R)
Q504 XN6501-TW
Q505 2SC4177-T1L5L6
IC502 TC4S66F (TE85R)
IC503 (1/3) TC4053BFS-EL
Q506 XN6435-TW
Q507 2SC4177-T1L5L6
Q508 XN6534-TW
Q509 XN6435-TW
Q510 XN4601-TW
Q511 XN6534-TW
Q512 2SC4177-T1L5L6
IC505 (3/6) SN74HC04APW-E05
IC535 LM4040A1M3-2.5
IC536 (1/4) TL064CPW-E05
Q541 2SA1213Y-TE12L
IC536 (2/4) TL064CPW-E05
Q542 2SA1213Y-TE12L
IC536 (3/4) TL064CPW-E05
IC536 (4/4) TL064CPW-E05
Q543 2SC2873Y-TE12L
IC537 TC4W53FU (TE12R)
Q544 2SA1576A-T106-QR
IC538 TC4W53FU (TE12R)
Q545 2SA1576A-T106-QR
Q546 2SC4081T106R
Q547 (1/2) XN6401-TW
Q547 (2/2) XN6401-TW
Q548 2SC4081T106R
R-Y LEVEL

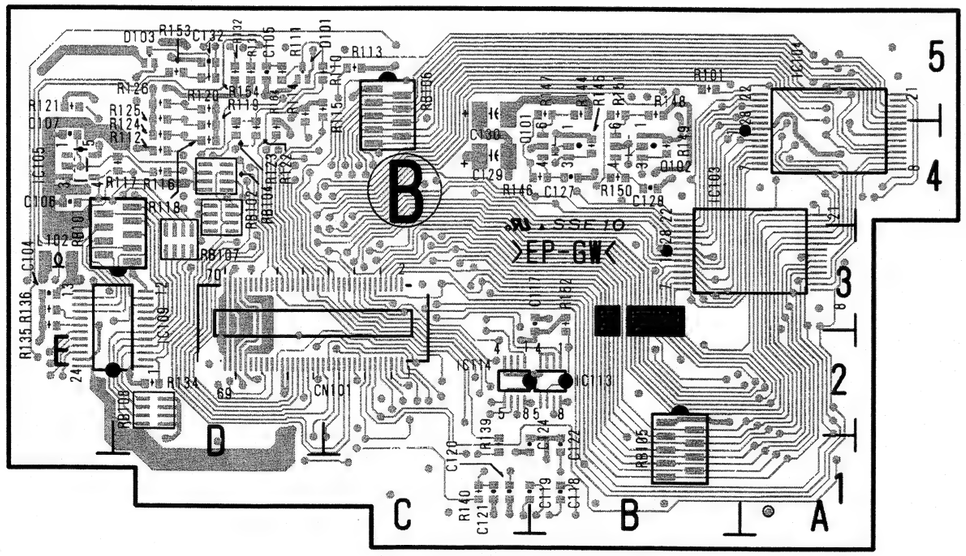


ES-12/12(P)(2/2)
PART NO. 1-663-015-11
MODEL DXC-D30/D30P
B-DXCD30-ES12/M

AT-110 BOARD



1-663-009-11 A SIDE

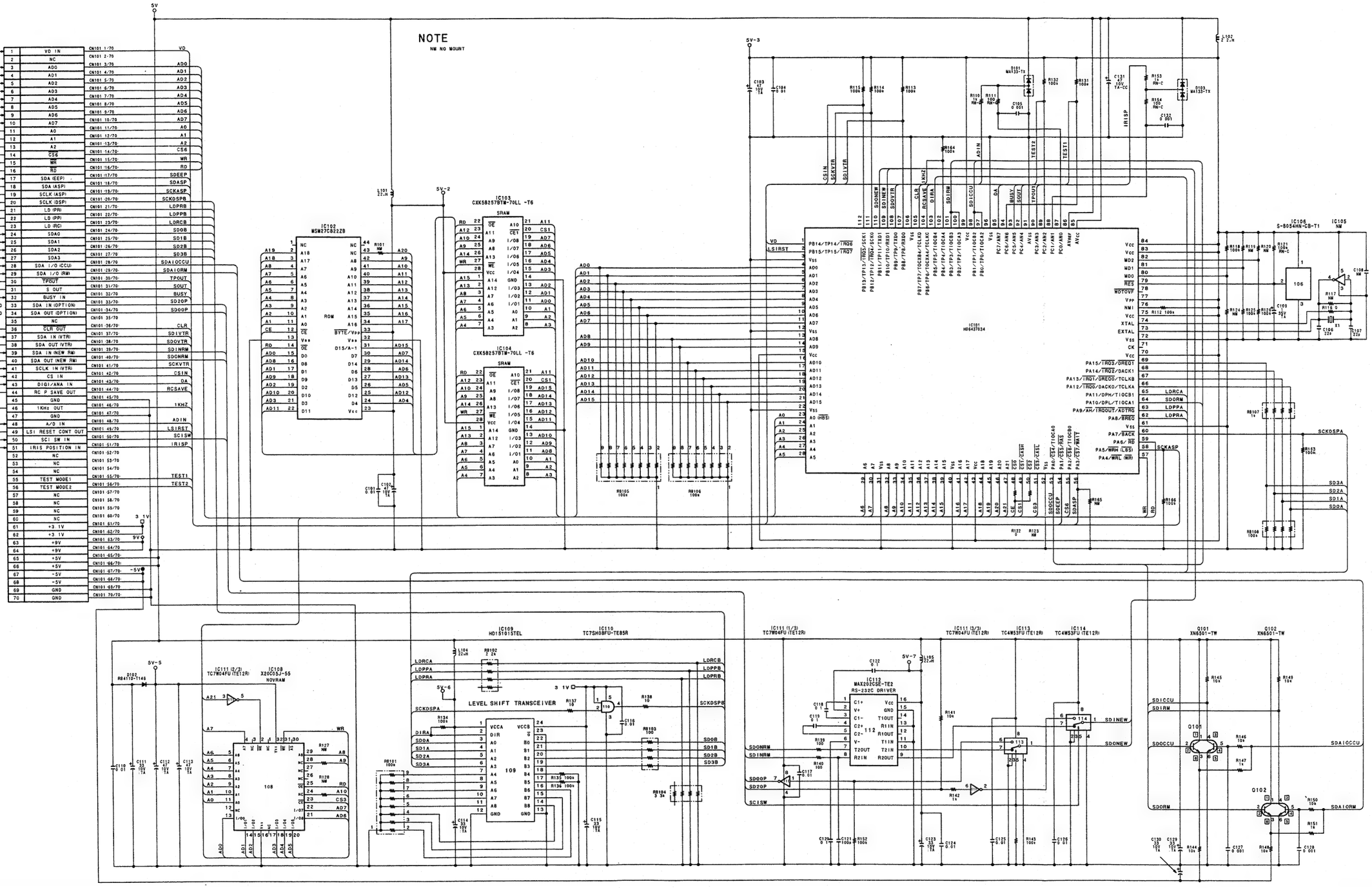


1-663-009-11 B SIDE

AT-110 (1-663-009-11)

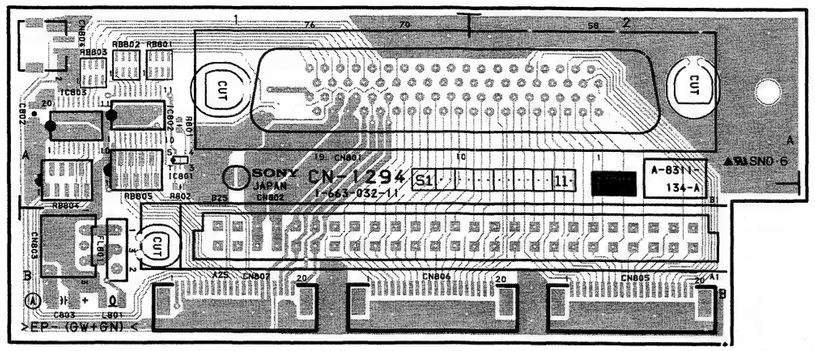
*: B SIDE

CNI102	B4
*CN101	D3
*D101	D5
D102	B1
*D103	D5
IC101	D4
IC102	B4
*IC103	A3
*IC104	A4
IC106	E5
IC108	A2
*IC109	D2
IC110	D2
IC111	B3
IC112	B1
*IC113	B2
*IC114	C2
L101	A5
*L102	E3
L104	D2
L105	C1
*Q101	B4
*Q102	B4
*RB101	D3
*RB102	D4
RB103	E2
*RB104	D4
*RB105	B1
*RB106	C5
*RB107	D3
*RB108	D2
X1	E4

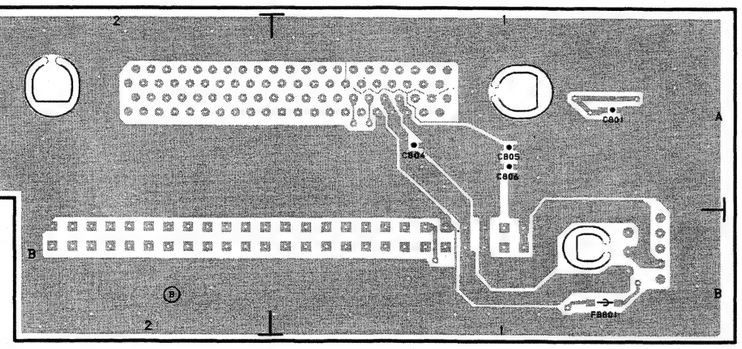


AT-110
PART NO. 1-663-009-11
MODEL DXC-D30/D30P
B-DXCD30-AT110/M

CN-1294 BOARD

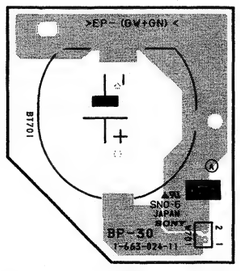


1-663-032-11 A SIDE

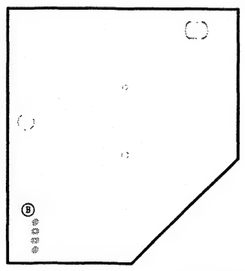


1-663-032-11 B SIDE

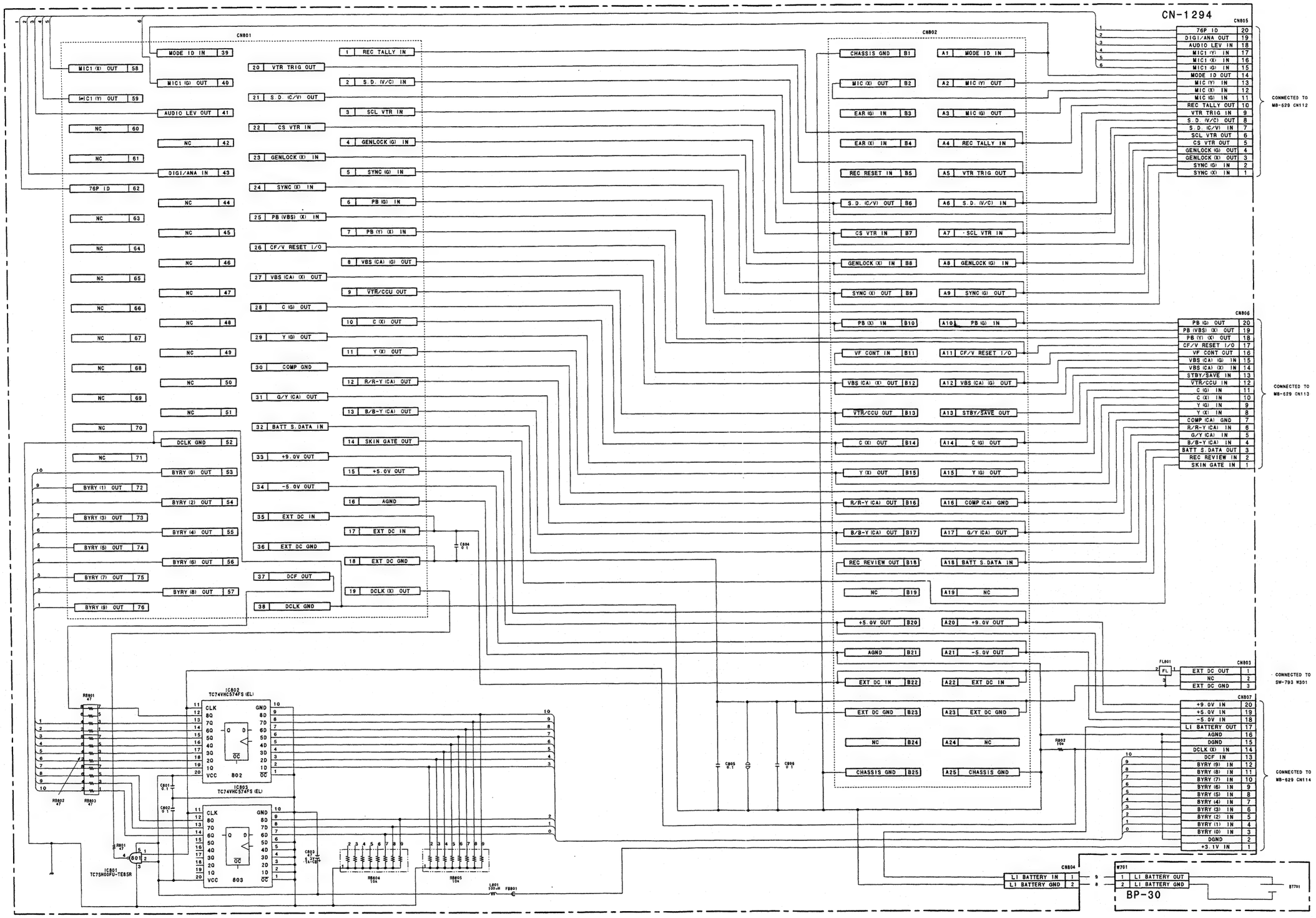
BP-30 BOARD



1-663-024-11 A SIDE



1-663-024-11 B SIDE



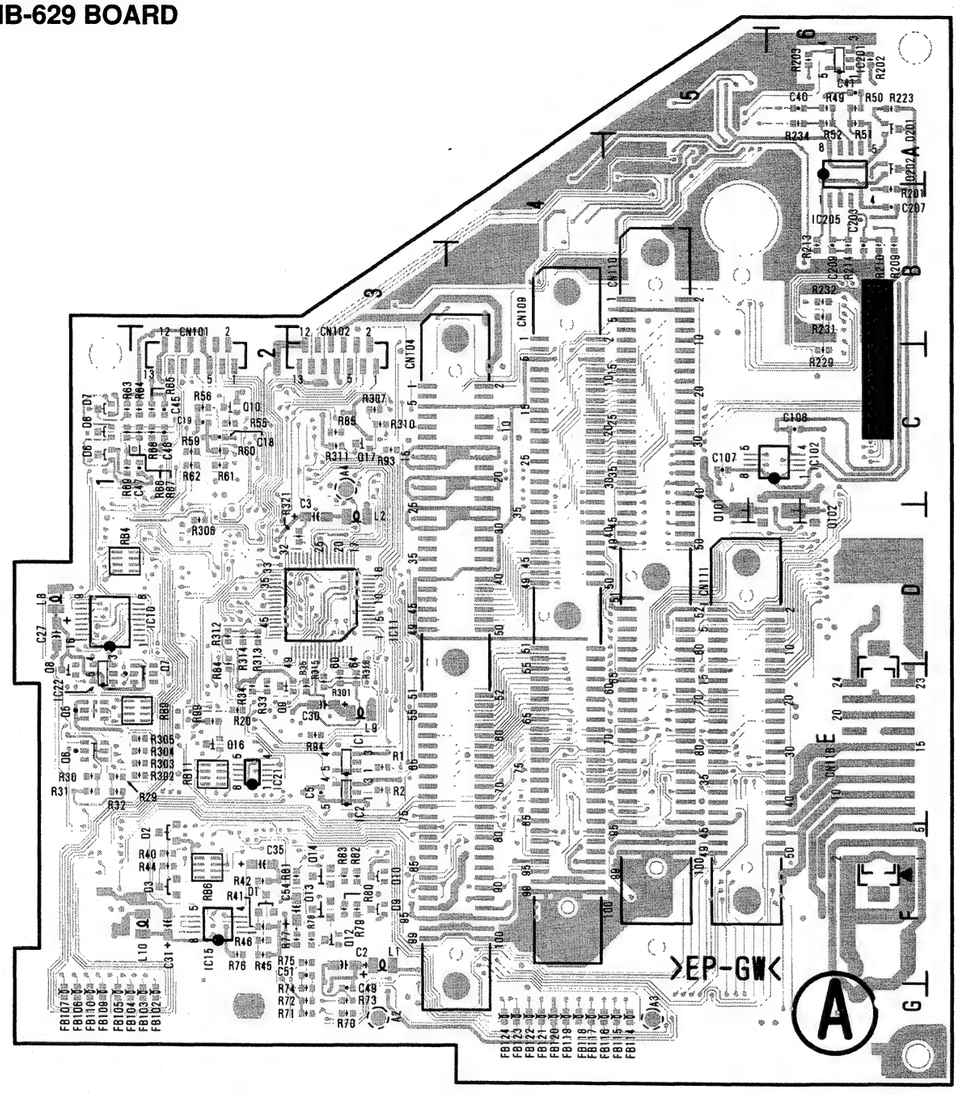
CN-1294
PART NO. 1-663-032-11
BP-30
PART NO. 1-663-024-11
MODEL DXC-D30/D30P
B-DXCD30-CN1294/M

DXC-D30 (J/UC)
DXC-D30P (CE)

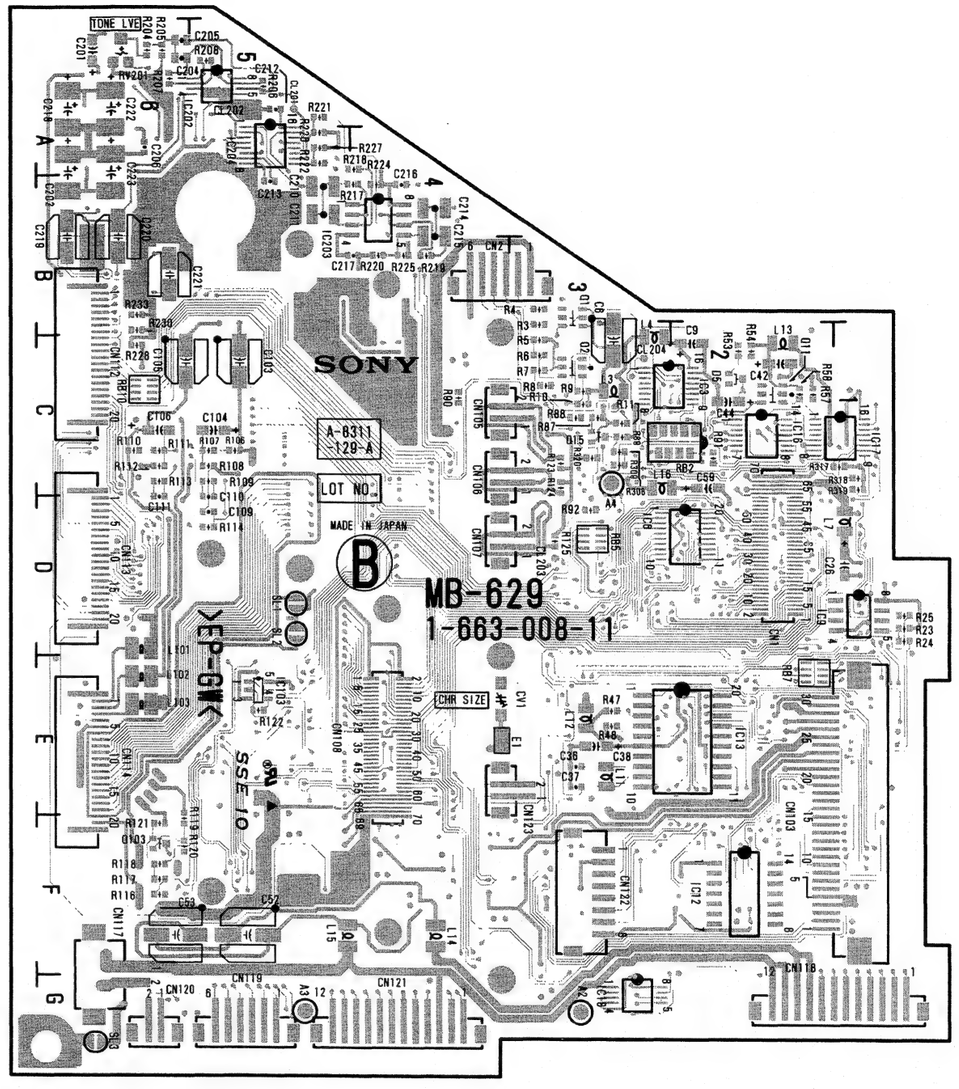
5-33 5-33

A B C D E F G H

MB-629 BOARD



1-663-008-11 A SIDE

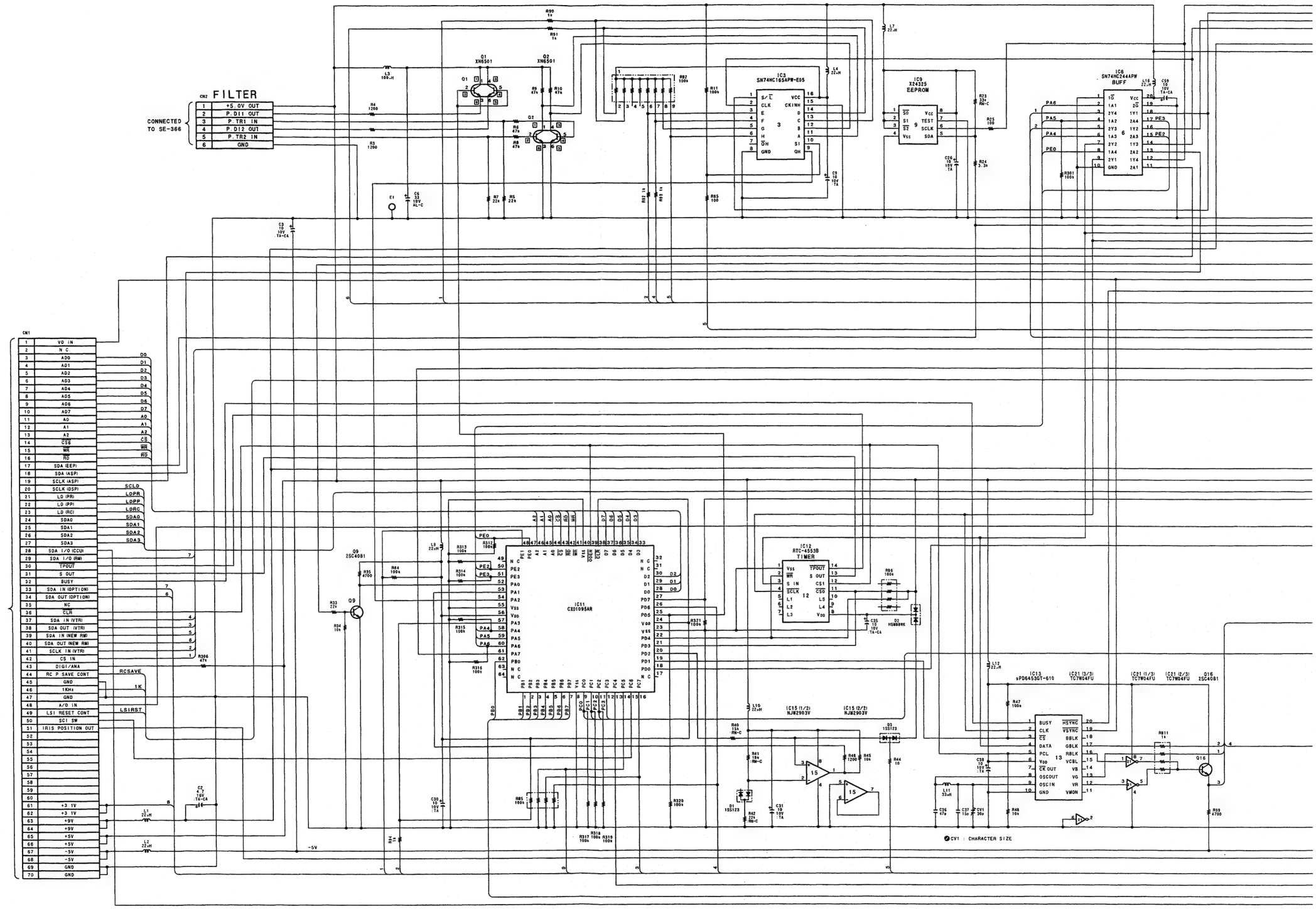


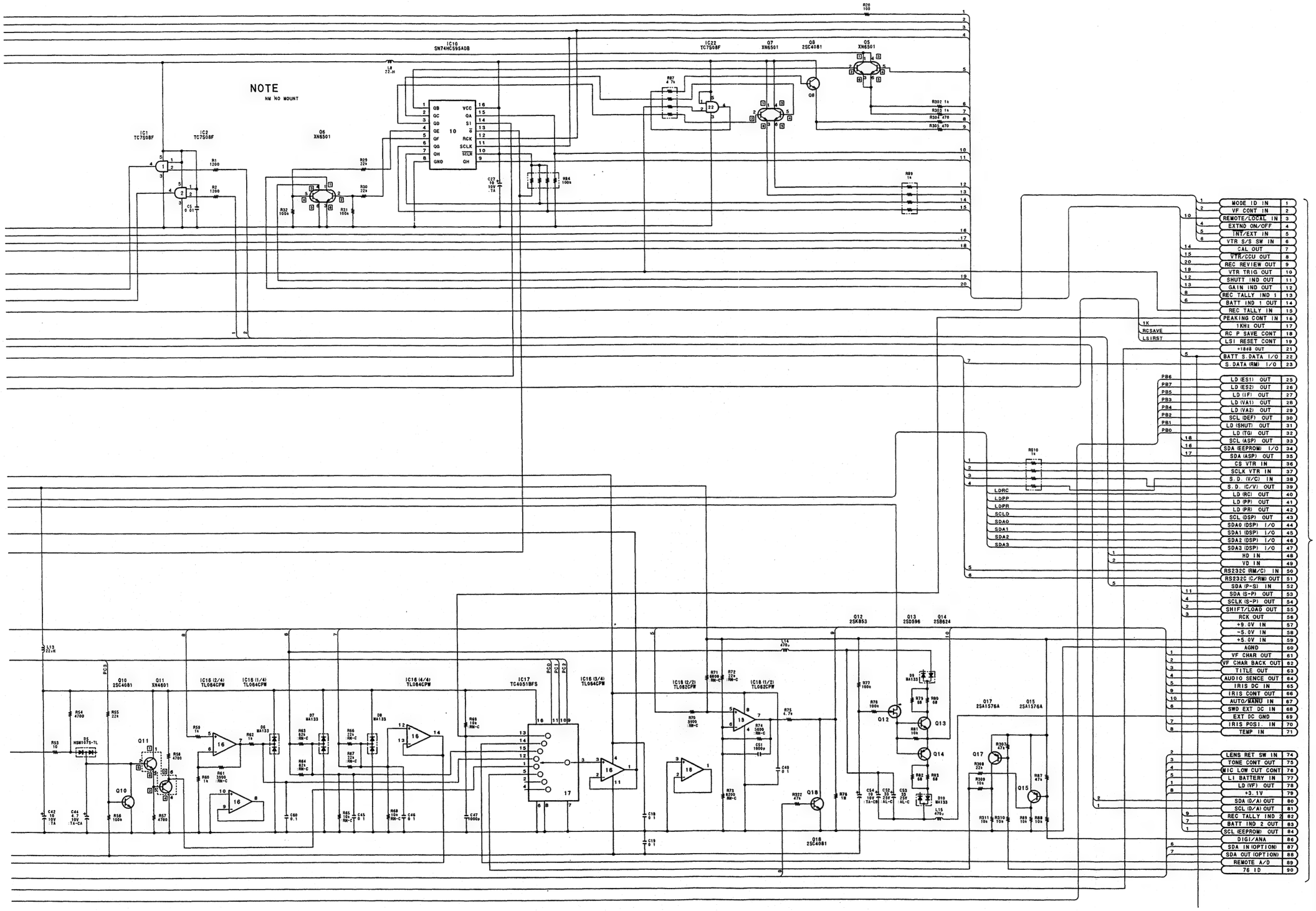
1-663-008-11 B SIDE

MB-629 (1-663-008-11)

*: B SIDE

*CN1	D2	*CN119	G5	FB102	G2	IC1	E3	*IC204	A5	*L103	E6	*Q103	F6
*CN2	B4	*CN120	G6	FB103	G2	IC2	E3	IC205	A6			Q201	A6
CN101	C2	*CN121	G4	FB104	G1	*IC3	C3			*Q1	B3	Q202	A6
CN102	C3	*CN122	F3	FB105	G1	*IC6	D2	L1	F3	*Q2	C3		
*CN103	E1	*CN123	E4	FB106	G1	*IC9	D1	L2	D3	Q5	E1	*RB2	C2
CN104	D4			FB107	G1	IC10	D1	*L3	C3	Q6	E1	RB4	D1
*CN105	C4	*CV1	E4	FB109	G1	IC11	D3	*L4	C3	Q7	E2	*RB5	D3
*CN106	C4			FB110	G1	*IC12	F2	*L7	D1	Q8	E1	RB6	F2
*CN107	D4	D1	F2	FB114	G5	*IC13	E2	L8	D1	Q9	E2	*RB7	E2
*CN108	E4	D2	F2	FB115	G5	IC15	F2	L9	E3	Q10	C2	RB9	E2
CN109	D4	D3	F2	FB116	G4	*IC16	C2	L10	F2	*Q11	C2	*RB10	C6
CN110	D5	*D5	C2	FB117	G4	*IC17	C1	*L11	E3	Q12	F3	RB11	E2
CN111	E5	D6	C1	FB118	G4	*IC18	G3	*L12	E3	Q13	F3		
*CN112	C6	D7	C1	FB119	G4	IC21	E2	*L13	C2	Q14	F3	*RV201	A6
*CN113	D6	D8	C1	FB120	G4	IC22	D1	*L14	F4	*Q15	C3		
*CN114	E6	D9	F3	FB121	G4	IC102	C6	*L15	F5	Q16	E2		
CN116	E6	D10	F3	FB122	G4	IC201	A6	*L16	C3	Q17	C3		
*CN117	F6			FB123	G4	*IC202	A5	*L101	D6	Q101	D5		
*CN118	G1	*E1	E4	FB124	G4	*IC203	B4	*L102	E6	Q102	D6		


CN2 FILTER
1 +5.0V OUT
2 P.DI1 OUT
3 P.TR1 IN
4 P.DI2 OUT
5 P.TR2 IN
6 GND
CONNECTED TO SE-366
CN1
1 VD IN
2 N.C
3 AD0
4 AD1
5 AD2
6 AD3
7 AD4
8 AD5
9 AD6
10 AD7
11 A0
12 A1
13 A2
14 CS
15 WR
16 RD
17 SDA (EEP)
18 SDA (ASP)
19 SCLK (ASP)
20 SCLK (DSP)
21 LD (PR)
22 LD (PP)
23 LD (RC)
24 SDAO
25 SDA1
26 SDA2
27 SDA3
28 SDA I/O (CCU)
29 SDA I/O (RW)
30 TPOUT
31 S OUT
32 BUSY
33 SDA IN (OPTION)
34 SDA OUT (OPTION)
35 NC
36 CLR
37 SDA IN (VTR)
38 SDA OUT (VTR)
39 SDA IN (NEW RW)
40 SDA OUT (NEW RW)
41 SCLK IN (VTR)
42 CS IN
43 DIGI/ANA
44 RC P SAVE CONT
45 GND
46 1KHz
47 GND
48 A/D IN
49 LSI RESET CONT
50 SCI SW
51 IRIS POSITION OUT
61 +3.1V
62 +3.1V
63 +9V
64 +9V
65 +5V
66 +5V
67 -5V
68 -5V
69 GND
70 GND
CONNECTED TO AT-110
SCLD
LDPR
LDPP
LDRC
SDA0
SDA1
SDA2
SDA3
RCSAVE
1K
LSIRST
Q1 XN6501
Q2 XN6501
Q3
Q9 2SC4081
IC3 SN74HC165APW-E05
IC9 X24325 EEPROM
IC6 SN74HC244APW BUFF
IC11 CXD1095AR
IC12 RTC-4553B TIMER
IC13 μPD6453GT-610
IC21 (1/3) TC7W04FU
IC21 (2/3) TC7W04FU
IC21 (3/3) TC7W04FU
IC15 (1/2) NJW2903V
IC15 (2/3) NJW2903V
Q16 2SC4081
D1 1SS123
D2 HSM88WK
D3 1SS123
CV1 : CHARACTER SIZE



MB-629(1/2)
PART NO. 1-663-008-11
MODEL DXC-D30/D30P
B-DXCD30-MB629/M

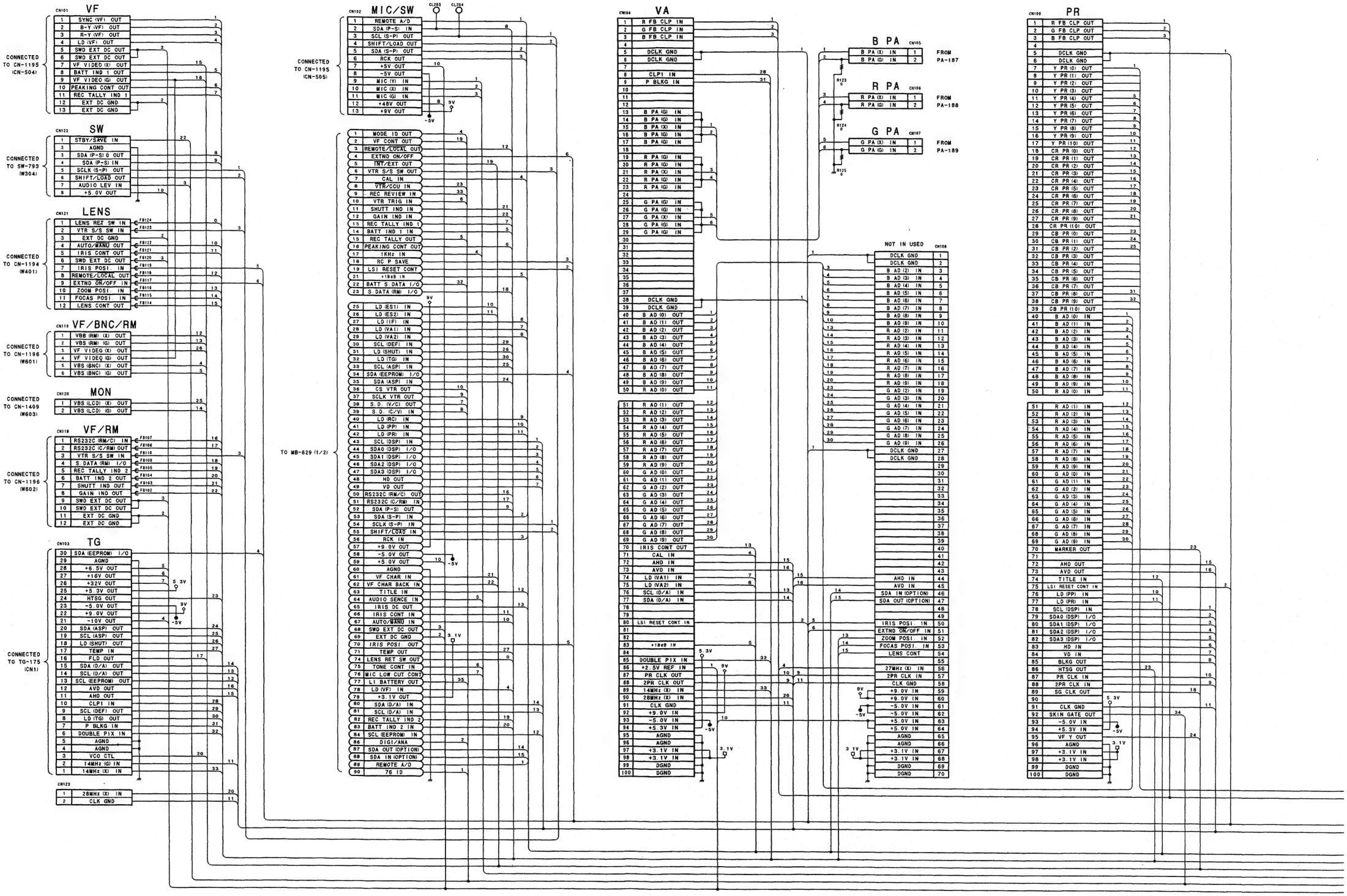
DXC-D30 (J/UC)
DXC-D30P (CE)

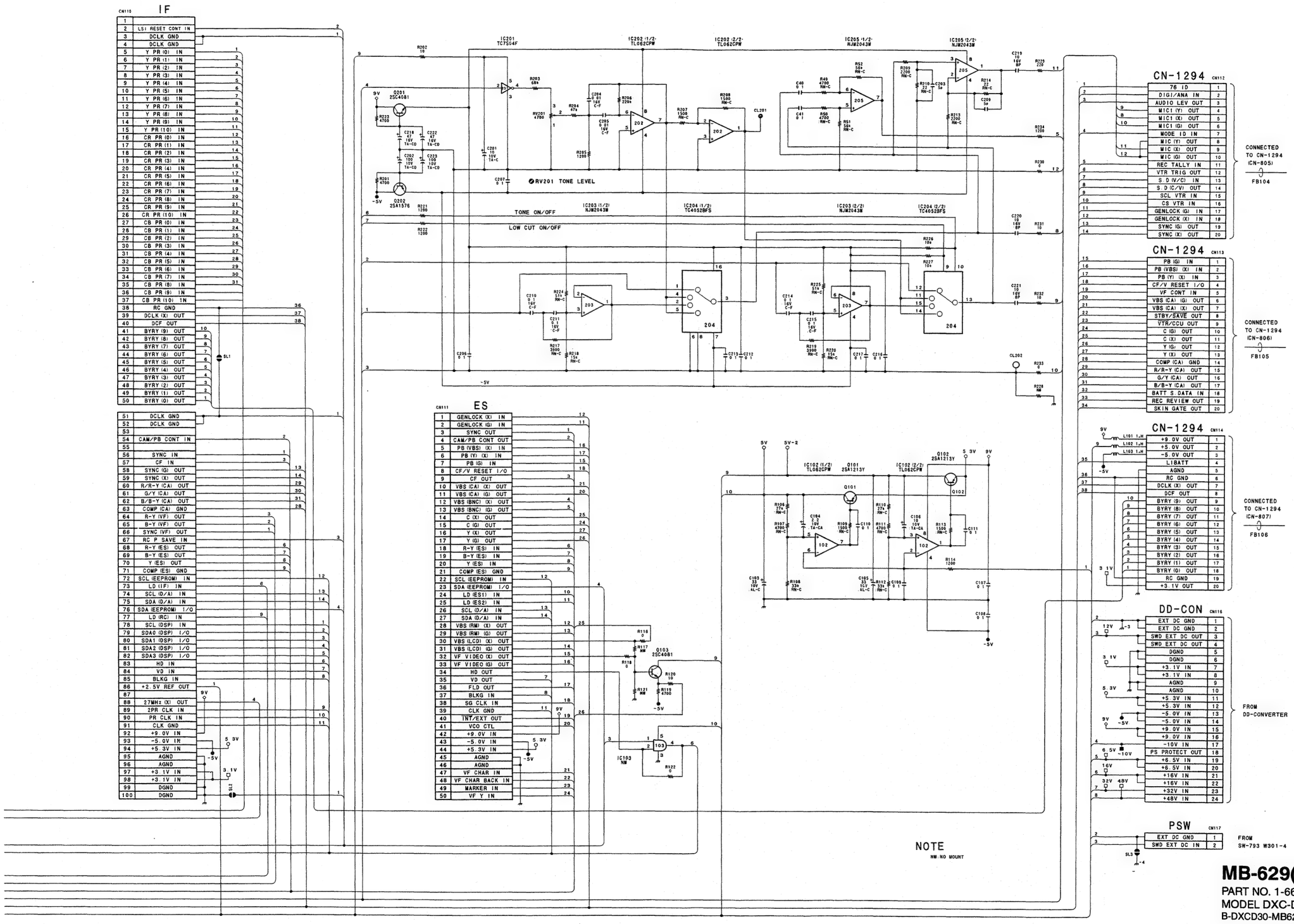
5-37 5-37

I J K L M N O P

1 2 3 4 5

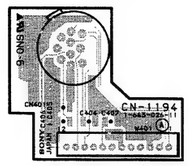
47


VF
CN101
1 SYNC (VF) OUT
2 B-Y (VF) OUT
3 R-Y (VF) OUT
4 LD (VF) OUT
5 SWD EXT DC OUT
6 SWD EXT DC OUT
7 VF VIDEO (X) OUT
8 BATT IND 1 OUT
9 VF VIDEO (G) OUT
10 PEAKING CONT OUT
11 REC TALLY IND 1
12 EXT DC GND
13 EXT DC GND
CONNECTED TO CN-1195 (CN-504)
SW
CN122
1 STBY/SAVE IN
2 AGND
3 SDA (P-S) O OUT
4 SDA (P-S) IN
5 SCLK (S-P) OUT
6 SHIFT/LOAD OUT
7 AUDIO LEV IN
8 +5.0V OUT
CONNECTED TO SW-793 (W304)
LENS
CN121
1 LENS REF SW IN
2 VTR S/S SW IN
3 EXT DC GND
4 AUTO/MANU OUT
5 IRIS CONT OUT
6 SWD EXT DC OUT
7 IRIS POSI. IN
8 REMOTE/LOCAL OUT
9 EXTND ON/OFF IN
10 ZOOM POSI IN
11 FOCAS POSI IN
12 LENS CONT OUT
FB124 FB123 FB122 FB121 FB120 FB119 FB118 FB117 FB116 FB115 FB114
CONNECTED TO CN-1194 (W401)
VF/BNC/RM
CN119
1 VBB (RM) (X) OUT
2 VBS (RM) (G) OUT
3 VF VIDEO (X) OUT
4 VF VIDEO (G) OUT
5 VBS (BNC) (X) OUT
6 VBS (BNC) (G) OUT
CONNECTED TO CN-1196 (W601)
MON
CN120
1 VBS (LCD) (X) OUT
2 VBS (LCD) (G) OUT
CONNECTED TO CN-1409 (W603)
VF/RM
CN118
1 RS232C (RM/C) IN
2 RS232C (C/RM) OUT
3 VTR S/S SW IN
4 S.DATA (RM) I/O
5 REC TALLY IND 2
6 BATT IND 2 OUT
7 SHUTT IND OUT
8 GAIN IND OUT
9 SWD EXT DC OUT
10 SWD EXT DC OUT
11 EXT DC GND
12 EXT DC GND
FB107 FB106 FB110 FB109 FB105 FB104 FB103 FB102
CONNECTED TO CN-1196 (W602)
TG
CN103
30 SDA (EEPROM) I/O
29 AGND
28 +6.5V OUT
27 +16V OUT
26 +32V OUT
25 +5.3V OUT
24 HTSG OUT
23 -5.0V OUT
22 +9.0V OUT
21 -10V OUT
20 SDA (ASP) OUT
19 SCL (ASP) OUT
18 LD (SHUT) OUT
17 TEMP IN
16 FLD OUT
15 SDA (D/A) OUT
14 SCL (D/A) OUT
13 SCL (EEPROM) OUT
12 AVD OUT
11 AHD OUT
10 CLPI IN
9 SCL (DEF) OUT
8 LD (TG) OUT
7 P BLKG IN
6 DOUBLE PIX IN
5 AGND
4 AGND
3 VCO CTL
2 14MHz (G) IN
1 14MHz (X) IN
CONNECTED TO TG-175 (CN1)
CN123
1 28MHz (X) IN
2 CLK GND
MIC/SW
CN102
1 REMOTE A/D
2 SDA (P-S) IN
3 SCL (S-P) OUT
4 SHIFT/LOAD OUT
5 SDA (S-P) OUT
6 RCK OUT
7 +5V OUT
8 -5V OUT
9 MIC (Y) IN
10 MIC (X) IN
11 MIC (G) IN
12 +48V OUT
13 +9V OUT
CL203 CL204
CONNECTED TO CN-1195 (CN-505)
1 MODE ID OUT
2 VF CONT OUT
3 REMOTE/LOCAL OUT
4 EXTND ON/OFF
5 INT/EXT OUT
6 VTR S/S SW OUT
7 CAL IN
8 VTR/CCU IN
9 REC REVIEW IN
10 VTR TRIG IN
11 SHUTT IND IN
12 GAIN IND IN
13 REC TALLY IND 1
14 BATT IND 1 IN
15 REC TALLY OUT
16 PEAKING CONT OUT
17 1KHz IN
18 RC P SAVE
19 LSI RESET CONT
21 +18dB IN
22 BATT S.DATA I/O
23 S.DATA (RM) I/O
25 LD (ES1) IN
26 LD (ES2) IN
27 LD (IF) IN
28 LD (VA1) IN
29 LD (VA2) IN
30 SCL (DEF) IN
31 LD (SHUT) IN
32 LD (TG) IN
33 SCL (ASP) IN
34 SDA (EEPROM) I/O
35 SDA (ASP) IN
36 CS VTR OUT
37 SCLK VTR OUT
38 S.D. (V/C) OUT
39 S.D. (C/V) IN
40 LD (RC) IN
41 LD (PP) IN
42 LD (PR) IN
43 SCL (DSP) IN
44 SDA0 (DSP) I/O
45 SDA1 (DSP) I/O
46 SDA2 (DSP) I/O
47 SDA3 (DSP) I/O
48 HD OUT
49 VD OUT
50 RS232C (RM/C) OUT
51 RS232C (C/RM) IN
52 SDA (P-S) OUT
53 SDA (S-P) IN
54 SCLK (S-P) IN
55 SHIFT/LOAD IN
56 RCK IN
57 +9.0V OUT
58 -5.0V OUT
59 +5.0V OUT
60 AGND
61 VF CHAR IN
62 VF CHAR BACK IN
63 TITLE IN
64 AUDIO SENCE IN
65 IRIS DC OUT
66 IRIS CONT IN
67 AUTO/MANU IN
68 SWD EXT DC OUT
69 EXT DC GND
70 IRIS POSI. OUT
71 TEMP OUT
74 LENS RET SW OUT
75 TONE CONT IN
76 MIC LOW CUT CONT
77 LI BATTERY OUT
78 LD (VF) IN
79 +3.1V OUT
80 SDA (D/A) IN
81 SCL (D/A) IN
82 REC TALLY IND 2
83 BATT IND 2 IN
84 SCL (EEPROM) IN
86 DIGI/ANA
87 SDA OUT (OPTION)
88 SDA IN (OPTION)
89 REMOTE A/D
90 76 ID
TO MB-629 (1/2)
VA
CN104
1 R FB CLP IN
2 G FB CLP IN
3 B FB CLP IN
5 DCLK GND
6 DCLK GND
8 CLPI IN
9 P BLKG IN
13 B PA (G) IN
14 B PA (G) IN
15 B PA (X) IN
16 B PA (G) IN
17 B PA (G) IN
19 R PA (G) IN
20 R PA (G) IN
21 R PA (X) IN
22 R PA (G) IN
23 R PA (G) IN
25 G PA (G) IN
26 G PA (G) IN
27 G PA (X) IN
28 G PA (G) IN
29 G PA (G) IN
38 DCLK GND
39 DCLK GND
40 B AD (0) OUT
41 B AD (1) OUT
42 B AD (2) OUT
43 B AD (3) OUT
44 B AD (4) OUT
45 B AD (5) OUT
46 B AD (6) OUT
47 B AD (7) OUT
48 B AD (8) OUT
49 B AD (9) OUT
50 R AD (0) OUT
51 R AD (1) OUT
52 R AD (2) OUT
53 R AD (3) OUT
54 R AD (4) OUT
55 R AD (5) OUT
56 R AD (6) OUT
57 R AD (7) OUT
58 R AD (8) OUT
59 R AD (9) OUT
60 G AD (0) OUT
61 G AD (1) OUT
62 G AD (2) OUT
63 G AD (3) OUT
64 G AD (4) OUT
65 G AD (5) OUT
66 G AD (6) OUT
67 G AD (7) OUT
68 G AD (8) OUT
69 G AD (9) OUT
70 IRIS CONT OUT
71 CAL IN
72 AHD IN
73 AVD IN
74 LD (VA1) IN
75 LD (VA2) IN
76 SCL (D/A) IN
77 SDA (D/A) IN
80 LSI RESET CONT IN
83 +18dB IN
85 DOUBLE PIX IN
86 +2.5V REF IN
87 PR CLK OUT
88 2PR CLK OUT
89 14MHz (X) IN
90 28MHz (X) IN
91 CLK GND
92 +9.0V IN
93 -5.0V IN
94 +5.3V IN
95 AGND
96 AGND
97 +3.1V IN
98 +3.1V IN
99 DGND
100 DGND
B PA
CN105
B PA (X) IN 1
B PA (G) IN 2
FROM PA-187
R123 0
R PA
CN106
R PA (X) IN 1
R PA (G) IN 2
FROM PA-188
R124 0
G PA
CN107
G PA (X) IN 1
G PA (G) IN 2
FROM PA-189
R125 0
NOT IN USED
CN108
DCLK GND 1
DCLK GND 2
B AD (2) IN 3
B AD (3) IN 4
B AD (4) IN 5
B AD (5) IN 6
B AD (6) IN 7
B AD (7) IN 8
B AD (8) IN 9
B AD (9) IN 10
R AD (2) IN 11
R AD (3) IN 12
R AD (4) IN 13
R AD (5) IN 14
R AD (6) IN 15
R AD (7) IN 16
R AD (8) IN 17
R AD (9) IN 18
G AD (2) IN 19
G AD (3) IN 20
G AD (4) IN 21
G AD (5) IN 22
G AD (6) IN 23
G AD (7) IN 24
G AD (8) IN 25
G AD (9) IN 26
DCLK GND 27
DCLK GND 28
AHD IN 44
AVD IN 45
SDA IN (OPTION) 46
SDA OUT (OPTION) 47
IRIS POSI. IN 50
EXTND ON/OFF IN 51
ZOOM POSI IN 52
FOCAS POSI. IN 53
LENS CONT 54
27MHz (X) IN 56
2PR CLK IN 57
CLK GND 58
+9.0V IN 59
+9.0V IN 60
-5.0V IN 61
-5.0V IN 62
+5.0V IN 63
+5.0V IN 64
AGND 65
AGND 66
+3.1V IN 67
+3.1V IN 68
DGND 69
DGND 70
PR
CN109
1 R FB CLP OUT
2 G FB CLP OUT
3 B FB CLP OUT
5 DCLK GND
6 DCLK GND
7 Y PR (0) OUT
8 Y PR (1) OUT
9 Y PR (2) OUT
10 Y PR (3) OUT
11 Y PR (4) OUT
12 Y PR (5) OUT
13 Y PR (6) OUT
14 Y PR (7) OUT
15 Y PR (8) OUT
16 Y PR (9) OUT
17 Y PR (10) OUT
18 CR PR (0) OUT
19 CR PR (1) OUT
20 CR PR (2) OUT
21 CR PR (3) OUT
22 CR PR (4) OUT
23 CR PR (5) OUT
24 CR PR (6) OUT
25 CR PR (7) OUT
26 CR PR (8) OUT
27 CR PR (9) OUT
28 CR PR (10) OUT
29 CB PR (0) OUT
30 CB PR (1) OUT
31 CB PR (2) OUT
32 CB PR (3) OUT
33 CB PR (4) OUT
34 CB PR (5) OUT
35 CB PR (6) OUT
36 CB PR (7) OUT
37 CB PR (8) OUT
38 CB PR (9) OUT
39 CB PR (10) OUT
40 B AD (0) IN
41 B AD (1) IN
42 B AD (2) IN
43 B AD (3) IN
44 B AD (4) IN
45 B AD (5) IN
46 B AD (6) IN
47 B AD (7) IN
48 B AD (8) IN
49 B AD (9) IN
50 R AD (0) IN
51 R AD (1) IN
52 R AD (2) IN
53 R AD (3) IN
54 R AD (4) IN
55 R AD (5) IN
56 R AD (6) IN
57 R AD (7) IN
58 R AD (8) IN
59 R AD (9) IN
60 G AD (0) IN
61 G AD (1) IN
62 G AD (2) IN
63 G AD (3) IN
64 G AD (4) IN
65 G AD (5) IN
66 G AD (6) IN
67 G AD (7) IN
68 G AD (8) IN
69 G AD (9) IN
70 MARKER OUT
72 AHD OUT
73 AVD OUT
74 TITLE IN
75 LSI RESET CONT IN
76 LD (PP) IN
77 LD (PR) IN
78 SCL (DSP) IN
79 SDA0 (DSP) I/O
80 SDA1 (DSP) I/O
81 SDA2 (DSP) I/O
82 SDA3 (DSP) I/O
83 HD IN
84 VD IN
85 BLKG OUT
86 HTSG OUT
87 PR CLK IN
88 2PR CLK IN
89 SG CLK OUT
91 CLK GND
92 SKIN GATE OUT
93 -5.0V IN
94 +5.3V IN
95 VF Y OUT
96 AGND
97 +3.1V IN
98 +3.1V IN
99 DGND
100 DGND

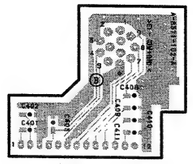


MB-629(2/2)
PART NO. 1-663-008-11
MODEL DXC-D30/D30P
B-DXCD30-MB629/M

CN-1194 BOARD

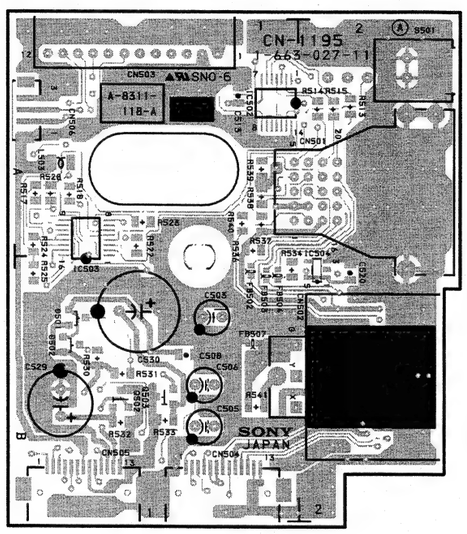


1-663-026-11 A SIDE



1-663-026-11 B SIDE

CN-1195 BOARD



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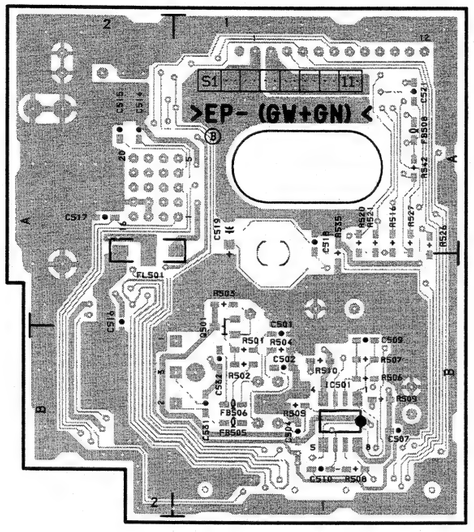
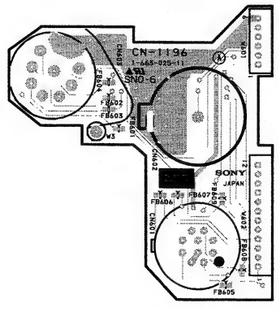
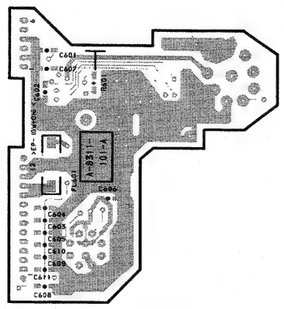


1-663-027-11 B SIDE

CN-1196 BOARD

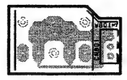


1-663-025-11 A SIDE

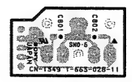


1-663-025-11 B SIDE

CN-1349 BOARD



1-663-028-11 A SIDE



1-663-028-11 B SIDE

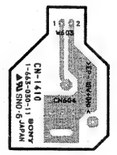
CN-1409(J) BOARD

1-663-029-11 A SIDE

1-663-029-11 B SIDE

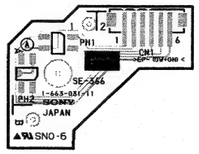
CN-1410 BOARD

1-663-030-11 A SIDE

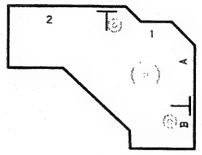


1-663-030-11 B SIDE

SE-366 BOARD

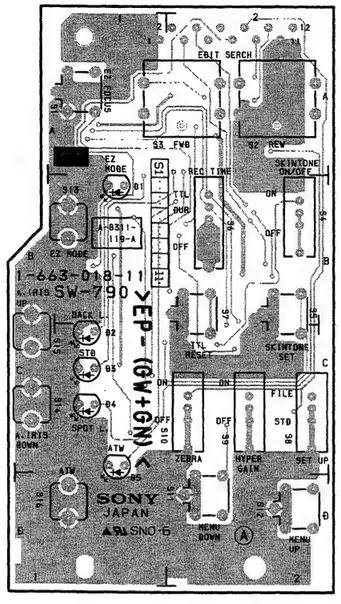


1-663-031-11 A SIDE

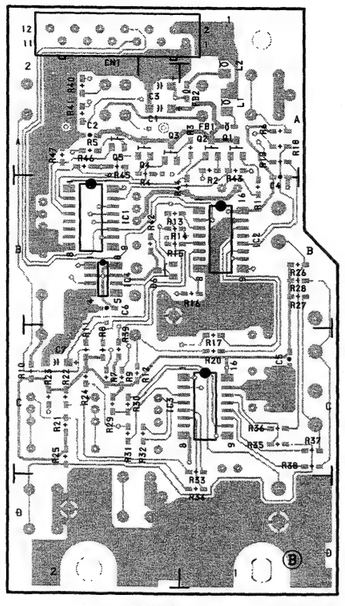


1-663-031-11 B SIDE

SW-790 BOARD

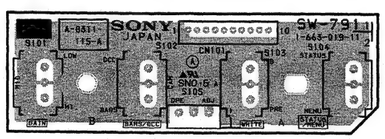


1-663-018-11 A SIDE

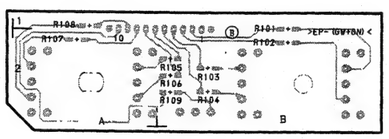


1-663-018-11 B SIDE

SW-791 BOARD

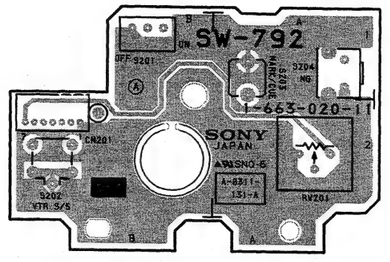


1-663-019-11 A SIDE

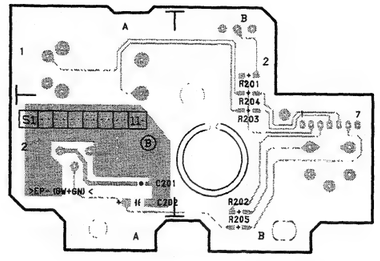


1-663-019-11 B SIDE

SW-792 BOARD

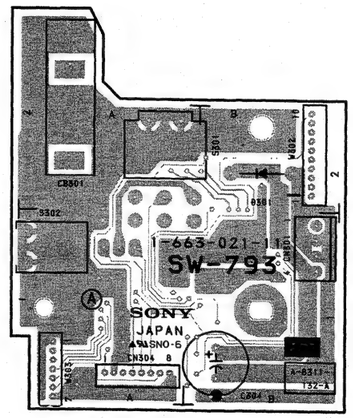


1-663-020-11 A SIDE

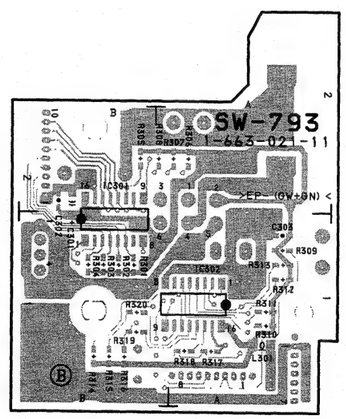


1-663-020-11 B SIDE

SW-793 BOARD



1-663-021-11 A SIDE



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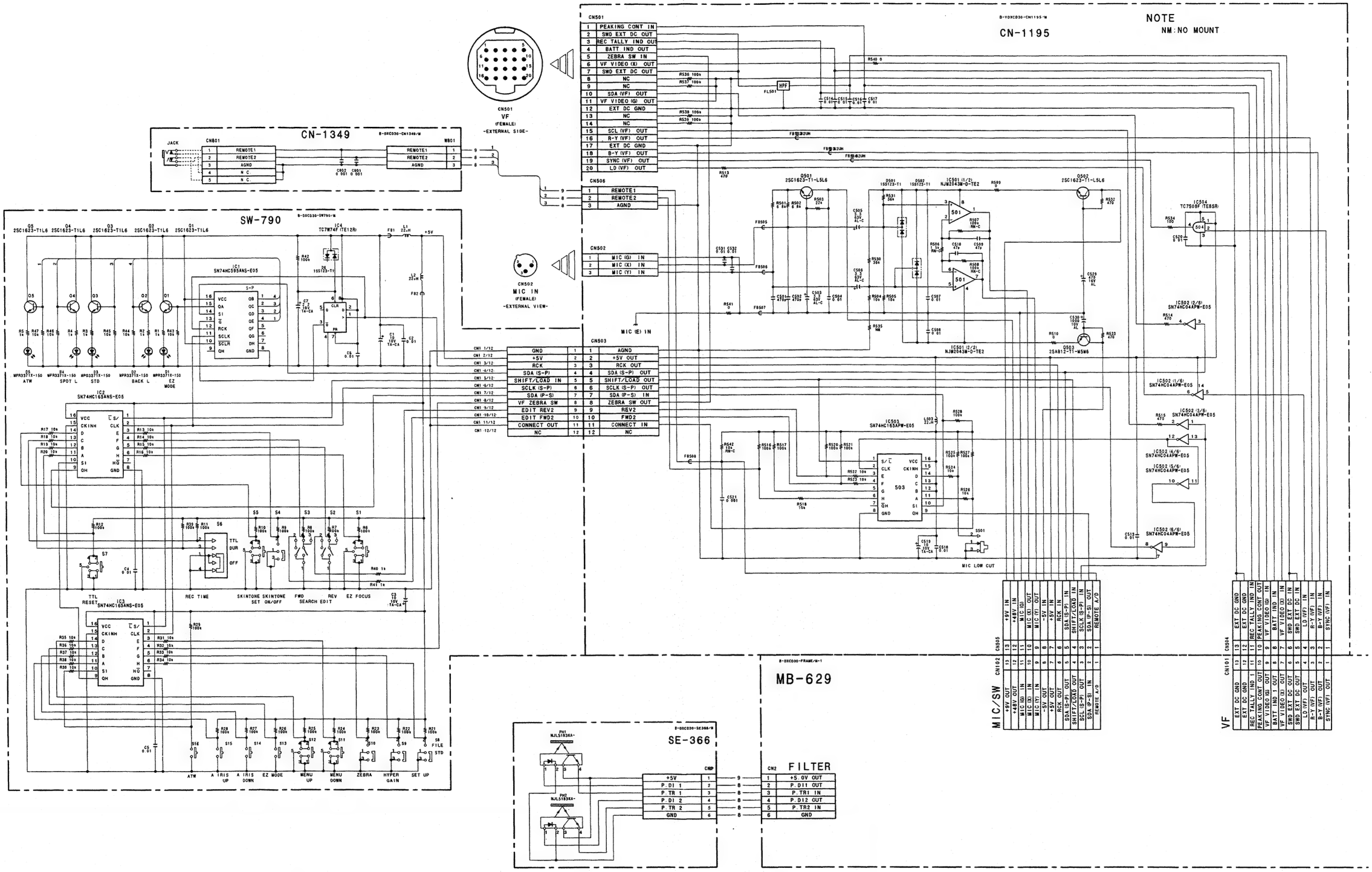
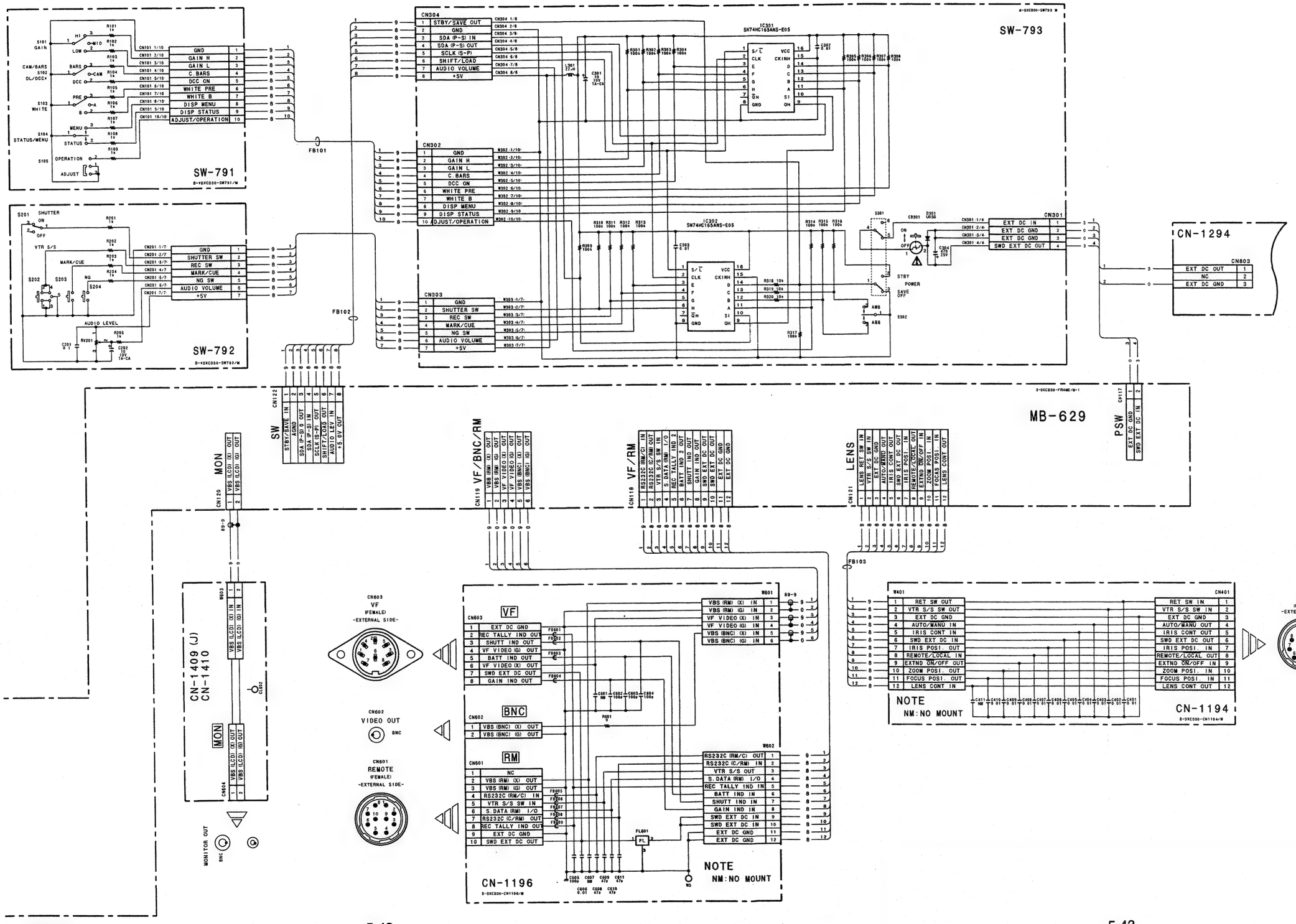

CN-1195
B-YOXCD30-CN1195/M
NOTE
NM: NO MOUNT
CN501
1 PEAKING CONT IN
2 SWD EXT DC OUT
3 REC TALLY IND OUT
4 BATT IND OUT
5 ZEBRA SW IN
6 VF VIDEO (X) OUT
7 SWD EXT DC OUT
8 NC
9 NC
10 SDA (VF) OUT
11 VF VIDEO (G) OUT
12 EXT DC GND
13 NC
14 NC
15 SCL (VF) OUT
16 R-Y (VF) OUT
17 EXT DC GND
18 B-Y (VF) OUT
19 SYNC (VF) OUT
20 L.D (VF) OUT
CN506
1 REMOTE1
2 REMOTE2
3 AGND
CN502
1 MIC (G) IN
2 MIC (X) IN
3 MIC (Y) IN
CN503
1 AGND
2 +5V OUT
3 RCK OUT
4 SDA (S-P) OUT
5 SHIFT/LOAD OUT
6 SCLK (S-P) OUT
7 SDA (P-S) IN
8 ZEBRA SW OUT
9 REV2
10 FWD2
11 CONNECT IN
12 NC
CN501 VF (FEMALE) -EXTERNAL SIDE-
CN502 MIC IN (FEMALE) -EXTERNAL VIEW-
MIC (E) IN
CN-1349
B-DXCD30-CN1349/M
JACK
CN801
1 REMOTE1
2 REMOTE2
3 AGND
4 N.C.
5 N.C.
W801
SW-790
B-DXCD30-SW790/M
Q5 2SC1623-T1L6
Q4 2SC1623-T1L6
Q3 2SC1623-T1L6
Q2 2SC1623-T1L6
Q1 2SC1623-T1L6
IC4 TC7W74F (TE12R)
IC1 SN74HC595ANS-E05
IC2 SN74HC165ANS-E05
IC3 SN74HC165ANS-E05
D5 MPR3371X-150 ATW
D4 MPR3371X-150 SPOT L
D3 MPR3371X-150 STD
D2 MPR3371X-150 BACK L
D1 MPR3371X-150 EZ MODE
D6 1SS123-T1
FB1 22µH
L1 22µH
L2 22µH
FB2
S1 EZ MODE
S2 REV
S3 FWD SEARCH EDIT
S4 SKINTONE SET ON/OFF
S5 SKINTONE
S6 REC TIME
S7 TTL RESET
S8 FILE STD
S9 SET UP
S10 ZEBRA
S11 MENU DOWN
S12 MENU UP
S13 EZ MODE
S14 A IRIS DOWN
S15 A IRIS UP
S16 ATW
S501 MIC LOW CUT
TTL DUR OFF
HYPER GAIN
FL501 NPF
IC501 (1/2) NJM2043M-D-TE2
IC501 (2/2) NJM2043M-D-TE2
IC503 SN74HC165APW-E05
Q501 2SC1623-T1-L5L6
Q502 2SC1623-T1-L5L6
Q503 2SA812-T1-M5W6
IC504 TC7S08F (TE85R)
IC502 (2/6) SN74HC04APW-E05
IC502 (1/6) SN74HC04APW-E05
IC502 (3/6) SN74HC04APW-E05
IC502 (4/6) SN74HC04APW-E05
IC502 (5/6) SN74HC04APW-E05
IC502 (6/6) SN74HC04APW-E05
MB-629
B-DXCD30-FRAME/M-1
MIC/SW CN102 CN505
1 +8V IN
2 +48V IN
3 MIC GND
4 MIC (X) IN
5 MIC (Y) IN
6 -5V OUT
7 +5V OUT
8 RCK OUT
9 SDA (S-P) OUT
10 SHIFT/LOAD OUT
11 SCLK (S-P) OUT
12 SDA (P-S) IN
13 REMOTE A/D
VF CN101 CN504
1 EXT DC GND
2 EXT DC GND
3 REC TALLY IND IN
4 PEAKING CONT OUT
5 VF VIDEO (X) OUT
6 BATT IND IN
7 VF VIDEO (X) IN
8 SWD EXT DC IN
9 SWD EXT DC OUT
10 L.D (VF) IN
11 R-Y (VF) IN
12 B-Y (VF) IN
13 SYNC (VF) IN
SE-366
B-DXCD30-SE366/M
PW1 NJL5193KA-
PW2 NJL5193KA-
CN2 FILTER
1 +5.0V OUT
2 P.DI1 OUT
3 P.TR1 IN
4 P.DI2 OUT
5 P.TR2 IN
6 GND



DXC-D30 (J/UC)
DXC-D30P (CE)

5-43 5-43

FRAME

CN-1194
PART NO. 1-663-026-11

CN-1195
PART NO. 1-663-027-11

CN-1196
PART NO. 1-663-025-11

CN-1349
PART NO. 1-663-028-11

CN-1409(J)
PART NO. 1-663-029-11

CN-1410
PART NO. 1-663-030-11

SE-366
PART NO. 1-663-031-11

SW-790
PART NO. 1-663-018-11

SW-791
PART NO. 1-663-019-11

SW-792
PART NO. 1-663-020-11

SW-793
PART NO. 1-663-021-11

MODEL DXC-D30/D30P
A-DXCD30-FRAME/M-1
B-DXCD30-CN1194/M-1
B-DXCD30-CN1195/M-1
B-DXCD30-CN1196/M-1
B-DXCD30-CN1349/M-1
B-DXCD30-SE366/M-1
B-DXCD30-SW790/M-1
B-DXCD30-SW791/M-1
B-DXCD30-SW792/M-1
B-DXCD30-SW793/M-1
B-DXCD30-FRAME/M-1

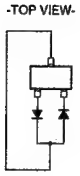
SECTION 6
SEMICONDUCTOR PIN ASSIGNMENTS

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。 なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はＩＣメーカーのデータブックに従いました。

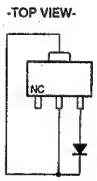
Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

DIODE, TRANSISTOR

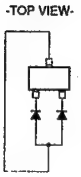
DIODE



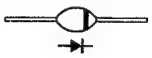
1SS226
1SS123-T1
HSM88AS-TL
MA133-TX
MA3J14300LSO



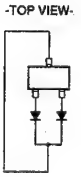
SB10-05PCP
SB10-05PCP-TD



HSM88WA-TL
MA132WA-TX
MA3J142D0LSO

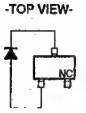


U05G

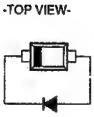


HSM88WK-TL
MA132WK-TX
MA3J142E0LSO

MPG3371X-150 ;GREEN
MPR3371X-150 ;RED
MPR3371X-150

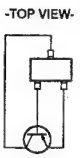


RB411D-T146

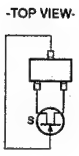


RD4.3UH-T1

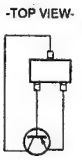
TRANSISTOR



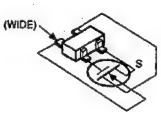
2SA1162-G
2SA812-T1-M5M6
2SA1226-T1E3E4
2SA1576A-T106-QR
2SA1610-T1Y34



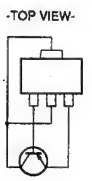
2SK94-T1X2X3X4



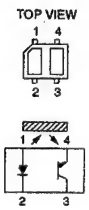
2SB624T1-BV345



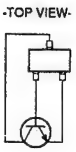
3SK163-1-T7



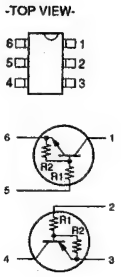
2SB798-DL
2SA1213Y-TE12L



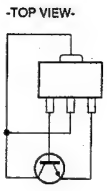
NJL5183KA-F20-TE1



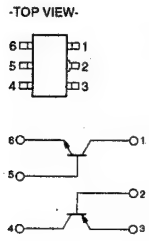
2SC1009A-T1FA4
2SC1623-T1-L5L6
2SC4176-T1B34
2SC4177-T1L5L6
2SC4178-T1F13
2SD596T1-DV345



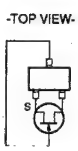
XN4312-TW



2SD1623-S
2SC2873Y-TE12L



XN4601-TW

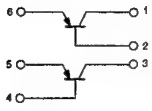


2SK853-T1K5

IC

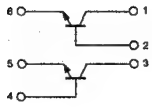
-TOP VIEW-

XN6401-TW
XN6435-TW



-TOP VIEW-

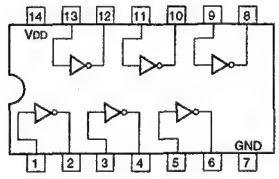
XN6501-TW
XN6534-TW

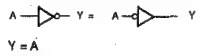


74AC04SJX (NS)FLAT PACKAGE
SN74HC04APW-E05 (TI)FLAT PACKAGE
TC74VHC04FS(EL) (TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS HEX INVERTERS

-TOP VIEW-





Y = A

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

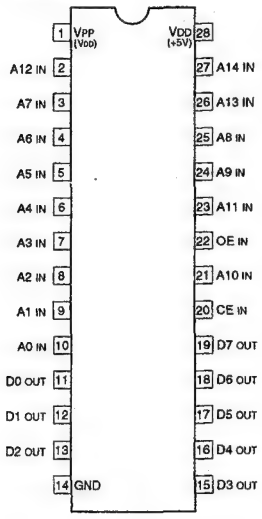
NOTE:

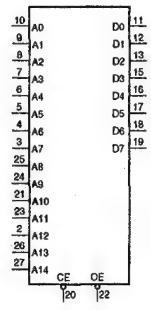
TYPE	VDD
74AC/74VHC/74VHCT	+2 to +5.5V
74ACT/74HCT	+4.5 to +5.5V
74LCX	+2 to +3.6V
OTHER TYPE	+2 to +6V

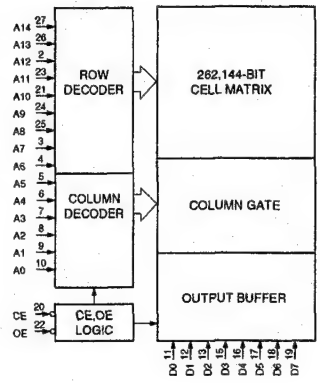
AT27C256R-15RC (ATMEL)

C-MOS 256K (32K × 8)-BIT UV ERASABLE FROM WITH 3-STATE OUTPUTS

-TOP VIEW-







A0–A14 ; ADDRESS INPUTS
CE ; CHIP ENABLE INPUT
D0–D7 ; DATA OUTPUTS
OE ; OUTPUT ENABLE INPUT
VPP ; PROGRAM POWER SUPPLY

An	CE	OE	VDD	Vpp	Dn	FUNCTION
An	0	0	+5V	+5V	D OUT	READ
An	0	1	+5V	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	+5V	HI-Z	STANDBY
An	0	1	+6V	+12.5V	D IN	PGM
An	1	0	+6V	+12.5V	D OUT	PGM VERIFY (1)
An	0	0	+6V	+12.5V	D OUT	PGM VERIFY (2)
X	1	1	+6V	+12.5V	HI-Z	PGM INH
AO	0	0	+5V	+5V	DEVICE CODE	ELECTRONIC SIGNATURE*

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

* SEE FOLLOWING DESCRIPTION

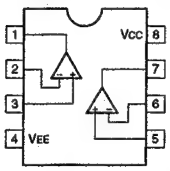
ELECTRONIC SIGNATURE FOR P ROM WRITER
ADDRESS SETTINGS IN READ MODE

A1 – A8	A9	A10 – A13	A14, Vpp
0	12V	0	1

	AO	CODE DATA D7	D6	D5	D4	D3	D2	D1	D0	
MAKER CODE	0	0	0	0	0	0	1	0	0	04H
DEVICE CODE	1	0	1	1	0	0	0	1	0	62H

BA10358F-E2 (ROHM)FLAT PACKAGE
UPC358G2-E2 (NEC)FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIER (HIGH GAIN)
-TOP VIEW-

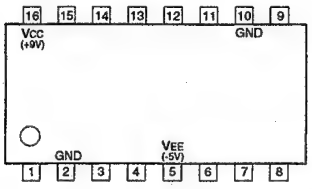


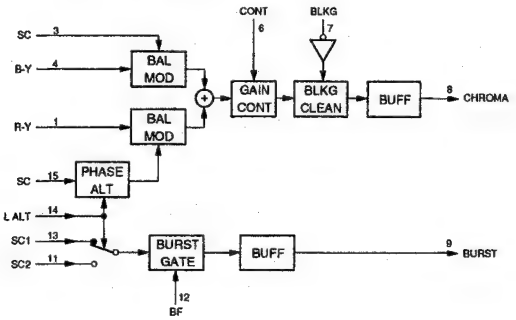
NOTE

	Vcc	VEE
SINGLE SUPPLY	+3 to +32V	GND
SPLIT SUPPLIES	+1.5 to +16V	−1.5 to −16V

CX22017-TH (SONY)

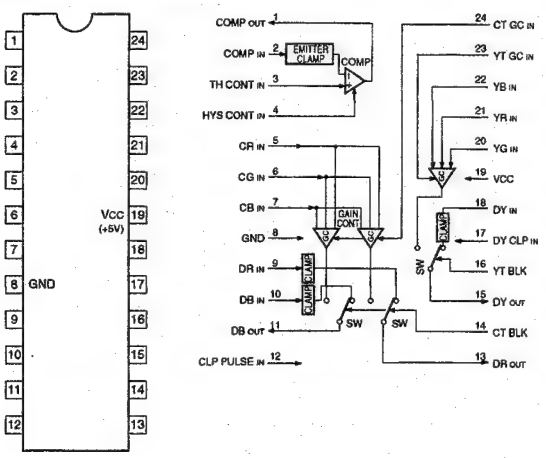
VIDEO SIGNAL PROCESSOR
-TOP VIEW-





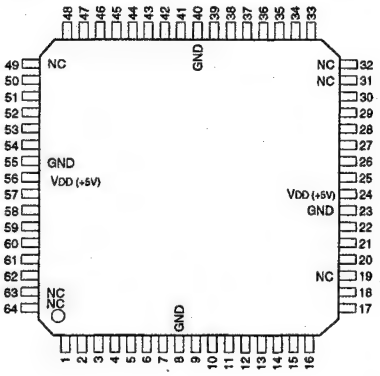
CXA1393AN (SONY)

TITLE INSERT IC FOR CAMERA
-TOP VIEW-



CXD1095AR (SONY)

C-MOS I/O EXPANDER
-TOP VIEW-

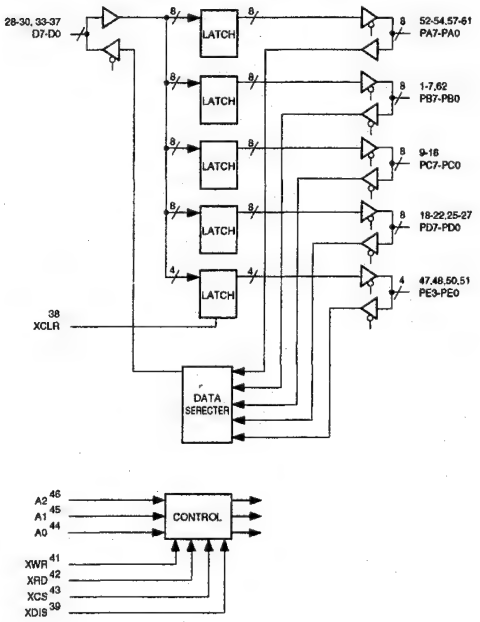


(VDD = +5V)

PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL	PIN NO.	I/O	SYMBOL
1	I/O	PB1	17	I/O	NC	33	I/O	D3	49	—	NC
2	I/O	PB2	18	I/O	PD0	34	I/O	D4	50	I/O	PE2
3	I/O	PB3	19	I/O	PD1	35	I/O	D5	51	I/O	PE3
4	I/O	PB4	20	I/O	PD2	36	I/O	D6	52	I/O	PA0
5	I/O	PB5	21	I/O	PD3	37	I/O	D7	53	I/O	PA1
6	I/O	PB6	22	I/O	PD4	38	I	XCLR	54	I/O	PA2
7	I/O	PB7	23	—	GND	39	I	XDIS	55	—	GND
8	—	GND	24	—	VDD	40	—	GND	56	—	VDD
9	I/O	PC0	25	I/O	PD5	41	I	XWR	57	I/O	PA3
10	I/O	PC1	26	I/O	PD6	42	I	XRD	58	I/O	PA4
11	I/O	PC2	27	I/O	PD7	43	I	XCS	59	I/O	PA5
12	I/O	PC3	28	I/O	D0	44	I	A0	60	I/O	PA6
13	WO	PC4	29	I/O	D1	45	I	A1	61	I/O	PA7
14	I/O	PC5	30	I/O	D2	46	I	A2	62	I/O	PB0
15	I/O	PC6	31	—	NC	47	I/O	PE0	63	—	NC
16	I/O	PC7	32	—	NC	48	I/O	PE1	64	—	NC

INPUT
A0-A3 ; ADDRESS INPUT
XCLR ; CLEAR
XCS ; CHIP SELECT
XDIS ; DISABLE
XRD ; READ
XWR ; WRITE

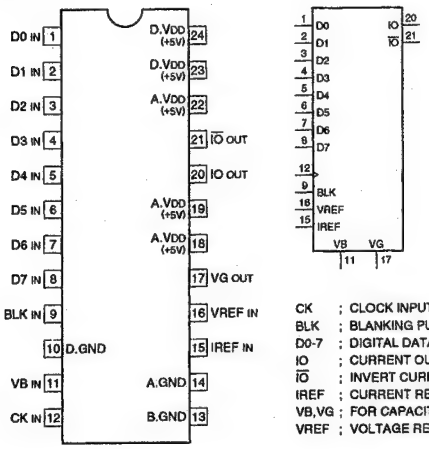
INPUT/OUTPUT
DO-7 ; DATA BUS
PA0-A7 ; I/O PORT 1
PB0-B7 ; I/O PORT 2
PC0-C7 ; I/O PORT 3
PD0-D7 ; I/O PORT 4
PE0-E7 ; I/O PORT 5



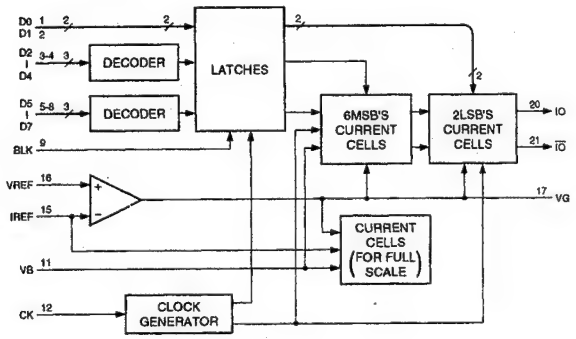
CXD1171M-TH (SONY)FLAT PACKAGE

C-MOS 8-BIT D/A CONVERTER

-TOP VIEW-



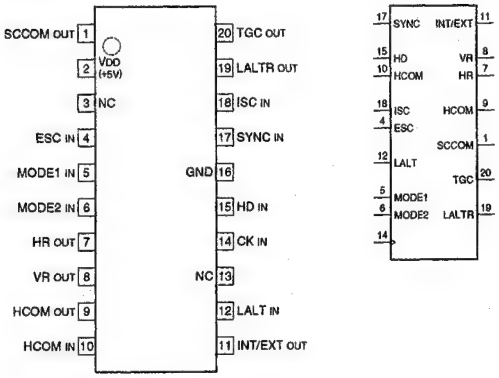
CK ; CLOCK INPUT
BLK ; BLANKING PULSE INPUT
D0-7 ; DIGITAL DATA INPUT
IO ; CURRENT OUTPUT
$\overline{IO}$; INVERT CURRENT OUTPUT
IREF ; CURRENT REFERENCE INPUT
VB,VG ; FOR CAPACITOR
VREF ; VOLTAGE REFERENCE INPUT



CXD1216M-TH (SONY)FLAT PACKAGE

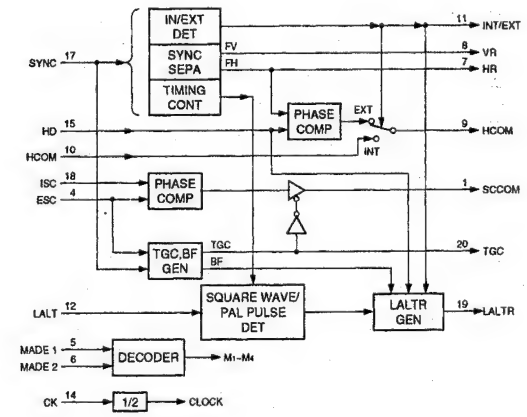
C-MOS GENLOCK DRIVER

-TOP VIEW-



INPUT		MODE	SYSTEM
MODE1	MODE2		
0	0	M1	PAL-VBS
1	0	M2	PALM-VBS
0	1	M3	PAL,SECAM-VS/SC/LALT
1	1	M4	NTSC-VBS,NTSC-VS/SC PALM-VS/SC/LALT

0 ; LOW LEVEL
1 ; HIGH LEVEL



INPUT

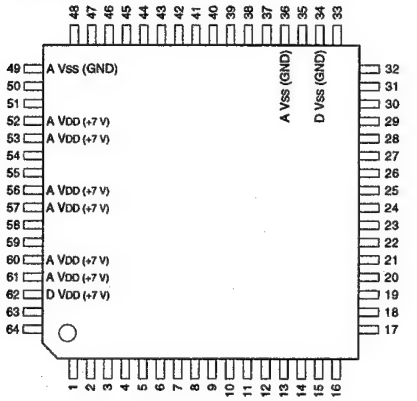
CK ; 4fsc CLOCK INPUT
ESC ; SC/COLOR BURST
HCOM ; PHASE COMPARATE FROM CXD1217
HD ; H DRIVE FROM CXD1217
ISC ; SUBCARRIER FROM CXD1217
LALT ; LALT FROM REFERENCE SIGNAL GENERATOR
MODE1,2 ; SYSTEM SELECT
SYNC ; SYNC FROM REFERENCE SIGNAL GENERATOR

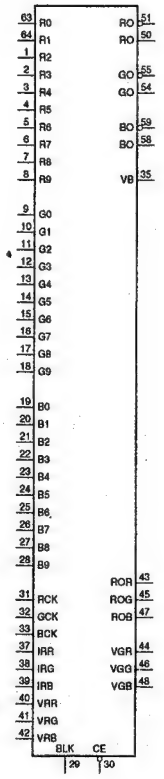
OUTPUT

HCOM ; PHASE COMPARATOR HR WITH HD
HR ; fH OF SYNC SEPARATE
INT/EXT ; INTERNAL/EXTERNAL SPECIFIED
LALTR ; LINE CHANGE RESET
SCCOM ; PHASE COMPARATOR ESC WITH ISC
TGC ; TRISTATE CONTROL
VR ; fV OF SYNC SEPARATE

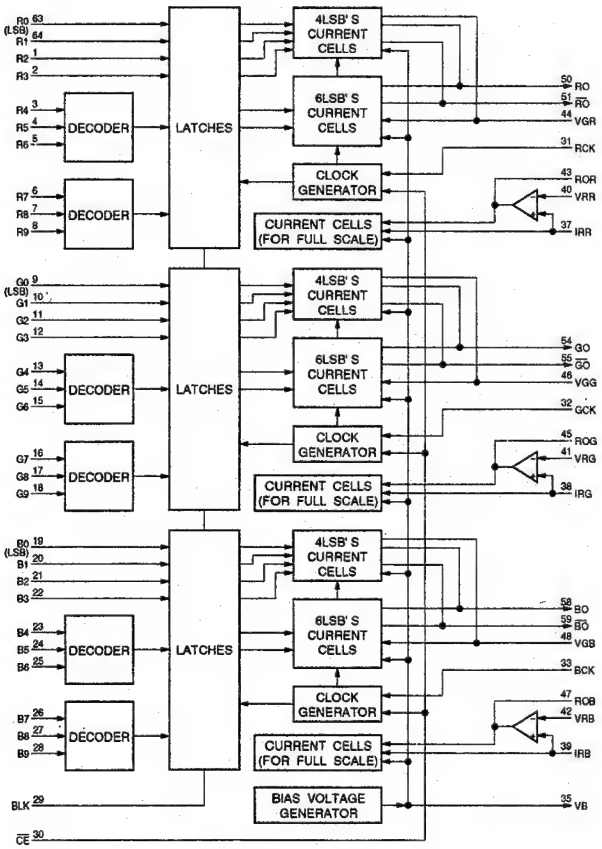
CXD2307R-T4 (SONY)FLAT PACKAGE

C-MOS 10-BIT 50MSPS RGB 3CHANNEL D/A CONVERTER
—TOP VIEW—



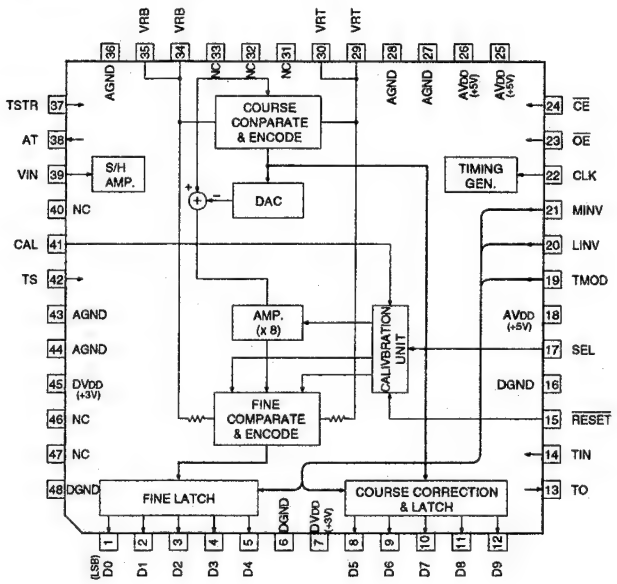


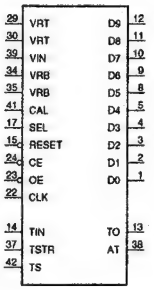
PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I	R2	17	I	G8	33	I	BCK	49	—	AVss
2	I	R3	18	I	G9	34	—	DVss	50	O	RO
3	I	R4	19	I	B0 (LSB)	35	O	VB	51	O	$\overline{RO}$
4	I	R5	20	I	B1	36	—	AVss	52	—	AVDD
5	I	R6	21	I	B2	37	I	IRR	53	—	AVDD
6	I	R7	22	I	B3	38	I	IRG	54	O	GO
7	I	R8	23	I	B4	39	I	IRB	55	O	$\overline{GO}$
8	I	R9	24	I	B5	40	I	VRR	56	—	AVDD
9	I	G0 (LSB)	25	I	B6	41	I	VRG	57	—	AVDD
10	I	G1	26	I	B7	42	I	VRB	58	O	BO
11	I	G2	27	I	B8	43	I	ROR	59	O	$\overline{BO}$
12	I	G3	28	I	B9	44	I	VGR	60	—	AVDD
13	I	G4	29	I	BLK	45	I	ROG	61	—	AVDD
14	I	G5	30	I	$\overline{CE}$	46	I	VGG	62	—	DVDD
15	I	G6	31	I	RCK	47	I	ROB	63	I	R0 (LSB)
16	I	G7	32	I	GCK	48	I	VGB	64	I	R1



CXD2310AR-T4 (SONY)

C-MOS 10-BIT 20MSPS VIDEO A/D CONVERTER
—TOP VIEW—





INPUT

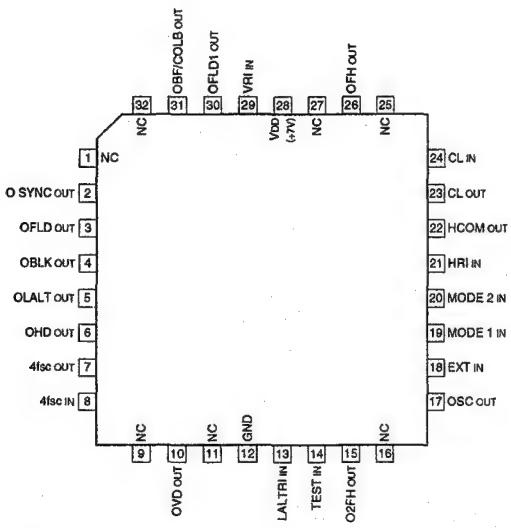
CAL	; CALIBRATION PULSE INPUT
CE	; CHIP ENABLE
CLK	; CLOCK
LINV	; OUTPUT (D0-D8) INVERSION
MINV	; OUTPUT (D9) INVERSION
OE	; DIGITAL DATA OUTPUT ENABLE
RESET	; CALIBRATION CIRCUIT RESET
SEL	; OUTPUT DATA (D5-D9) SELECT FOR CALIBRATION (4-CLOCK) HIGH; THROUGH OUTPUT, LOW; DATA FIXED AS WITH D0-D4
TIN	; TEST SIGNAL INPUT
TMOD	; TEST MODE
TS	; TEST SIGNAL INPUT
TSTR	; TEST SIGNAL INPUT
VRB	; REFERENCE BOTTOM VOLTAGE
VRT	; REFERENCE TOP VOLTAGE

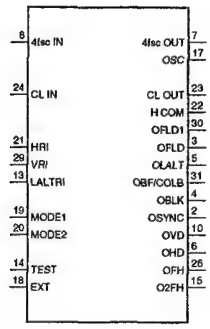
OUTPUT

AT	; TEST SIGNAL OUTPUT
D0-D9	; DIGIRAL DATA OUTPUT
TO	; TEST PIN

CXD1217Q-T4 (SONY)

C-MOS SYNC GENERATOR
-TOP VIEW-





SYSTEM	4fsc	CLOCK
NTSC	910fH	910fH
PAL	1135fH + 2fV	908fH
PALM	909fH	910fH
SECAM	—	908fH

INPUT		SYSTEM
MODE1	MODE2	
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

0 ; LOW LEVEL
1 ; HIGH LEVEL

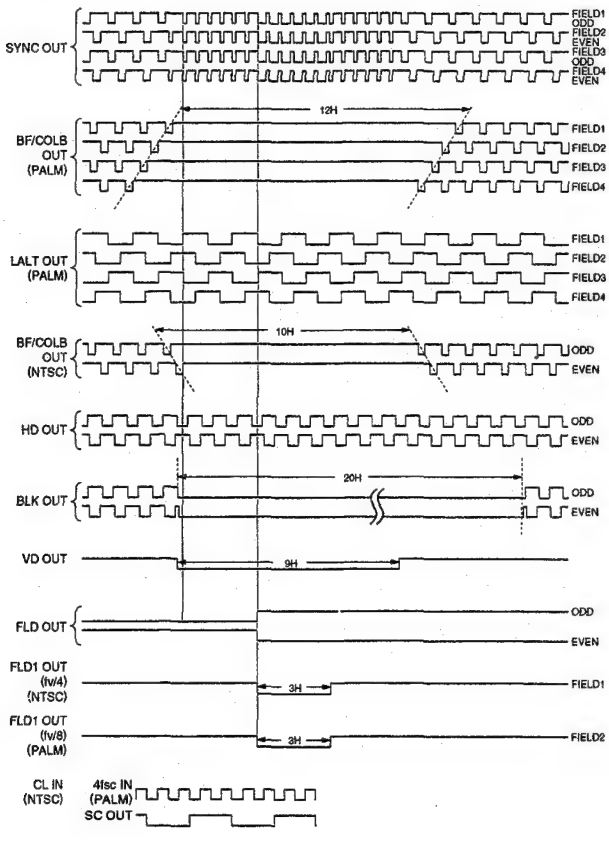
INPUT

4fsc IN	; 4fsc
CL IN	; CLOCK
EXT	; SYNC MODE SELECT (L : INTERNAL/H : EXTERNAL)
HRI	; HORIZONTAL RESET
LALTRI	; LINE ALTERNATE RESET
MODE1, 2	; SYSTEM SELECT
VRI	; VERTICAL RESET

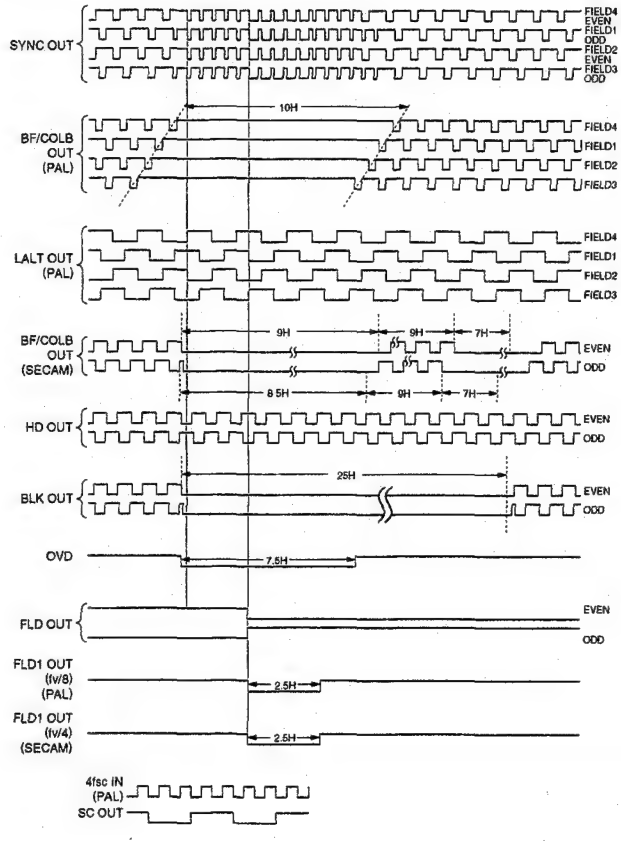
OUTPUT

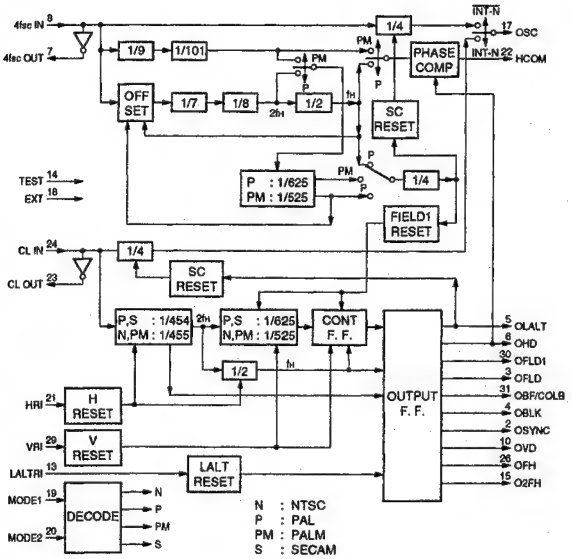
4fsc OUT	; 4fsc
CL OUT	; CLOCK
HCOM	; PHASE COMPARATOR
O2FH	; 2fH
OBF/COLB	; BURST FLAG/COLOR BLANKING
OBLK	; COMPOSITE BLANKING
OFH	; fH
OFLD	; FIELD PULSE
OFLD1	; FIELD1
OHD	; HORIZONTAL DRIVE
OLALT	; LINE ALTERNATE
OSC	; SUBCARRIER
OSYNC	; COMPOSITE SYNC
OVD	; VERTICAL DRIVE

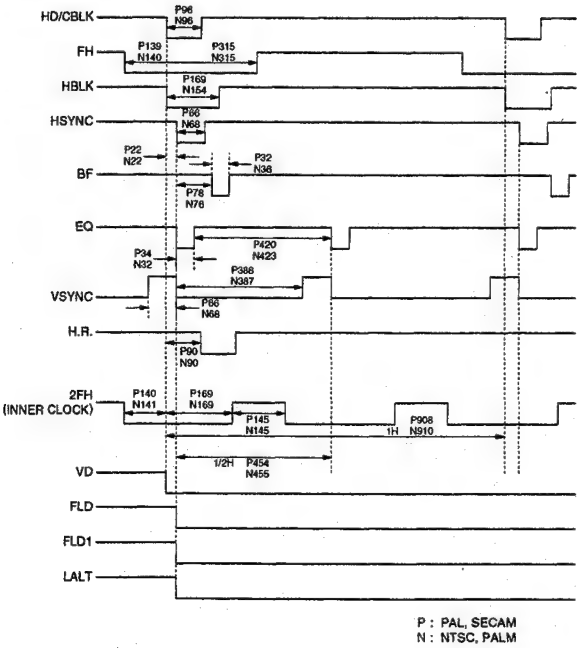
(NTSC, PALM)



(PAL, SECAM)



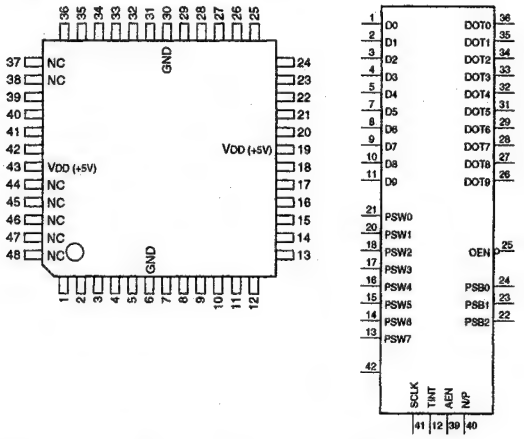




CXK1203AR-T4 (SONY)

C-MOS DIGITAL LINE MEMORY

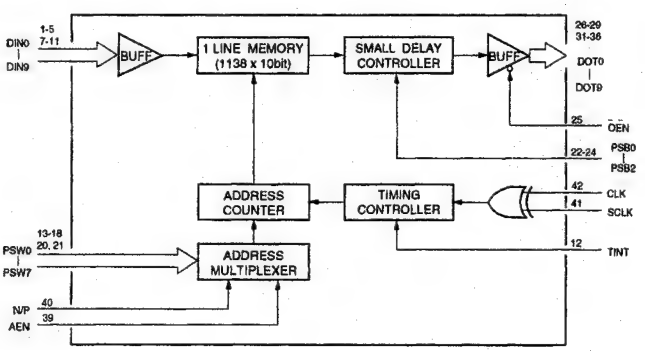
—TOP VIEW—



(VDD = +5V)

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	D0	13	I	PSW7	25	I	OEN	37	—	N.C
2	I	D1	14	I	PSW6	26	O	DOT9	38	—	N.C
3	I	D2	15	I	PSW5	27	O	DOT8	39	I	AEN
4	I	D3	16	I	PSW4	28	O	DOT7	40	I	N/P
5	I	D4	17	I	PSW3	29	O	DOT6	41	I	SCLK
6	—	GND	18	I	PSW2	30	—	GND	42	I	CLK
7	I	D5	19	—	VDD	31	O	DOT5	43	—	VDD
8	I	D6	20	I	PSW1	32	O	DOT4	44	—	N.C
9	I	D7	21	I	PSW0	33	O	DOT3	45	—	N.C
10	I	D8	22	I	PSB2	34	O	DOT2	46	—	N.C
11	I	D9	23	I	PSB1	35	O	DOT1	47	—	N.C
12	I	TINT	24	I	PSB0	36	O	DOT0	48	—	N.C

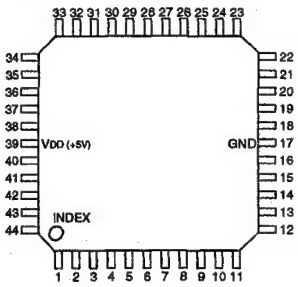
AEN	; LINE MEMORY SELECT
CLK	; CLOCK
DIN0-DIN9	; VIDEO DATA INPUT
DOT0-DOT9	; VIDEO DATA OUTPUT
N/P	; NTSC/PAL/SECAM SELECT
OEN	; OUTPUT ENABLE
PSB0-PSB2	; DELAY STEP SELECT (1 BITxN)
PSW0-PSW7	; DELAY STEP SELECT (8 BITxN)
SCLK	; CLOCK EDGE SELECT
TINT	; TEST

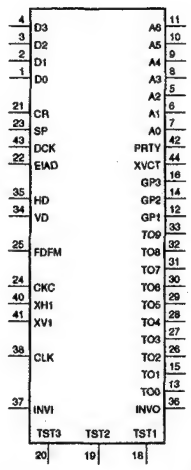


CXD8095Q (SONY)FLAT PACKAGE

C-MOS GATE ARRAY

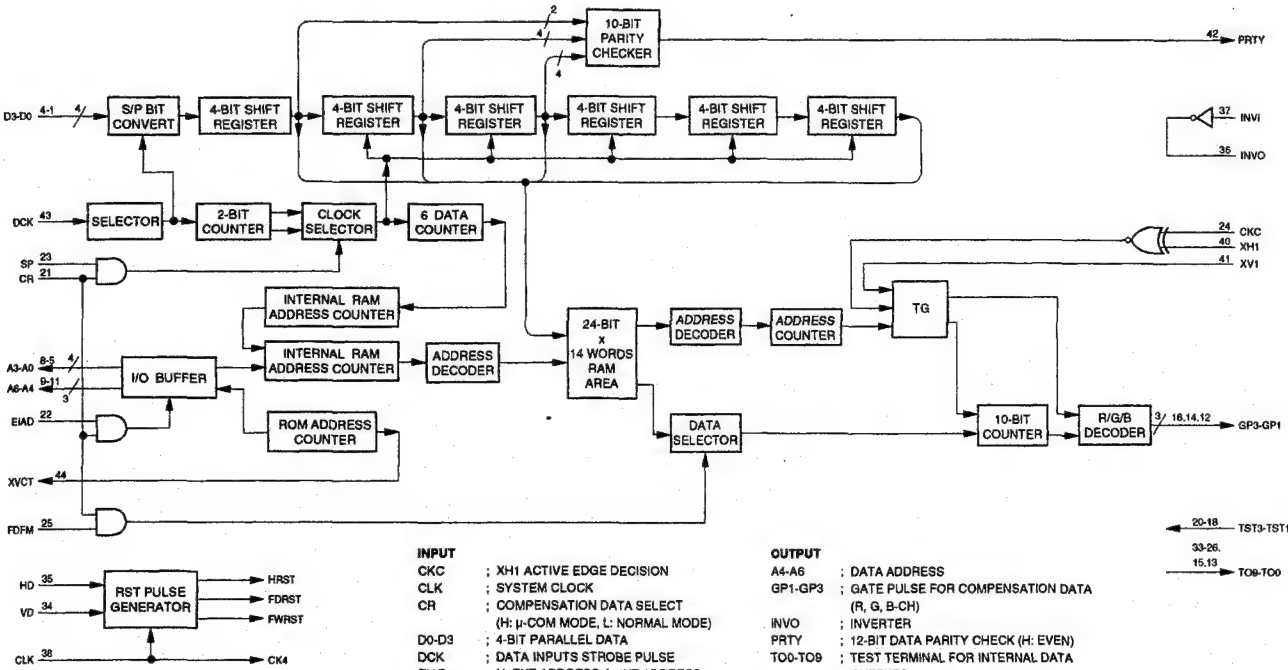
—TOP VIEW—





(VDD = +5V)

PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	I	D0	12	O	GP1	23	I	SP	34	I	VD
2	I	D1	13	O	TO0	24	I	CKC	35	I	HD
3	I	D2	14	O	GP2	25	I	FDFM	36	O	INVO
4	I	D3	15	O	TO1	26	O	TO2	37	I	INVI
5	I/O	A2	16	O	GP3	27	O	TO3	38	I	CLK
6	I/O	A1	17	—	GND	28	O	TO4	39	—	VDD
7	I/O	A0	18	I	TST1	29	O	TO5	40	I	XH1
8	I/O	A3	19	I	TST2	30	O	TO6	41	I	XV1
9	O	A4	20	I	TST3	31	O	TO7	42	O	PRTY
10	O	A5	21	I	CR	32	O	TO8	43	I	DCK
11	O	A6	22	I	EIAD	33	O	TO9	44	O	XVCT



INPUT

CKC	; XH1 ACTIVE EDGE DECISION
CLK	; SYSTEM CLOCK
CR	; COMPENSATION DATA SELECT (H: μ-COM MODE, L: NORMAL MODE)
D0-D3	; 4-BIT PARALLEL DATA
DCK	; DATA INPUTS STROBE PULSE
EIAD	; H: EXT ADDRESS, L: INT ADDRESS
FDFM	; FRAME READ/FIELD READ SWITCH (H: FIELD READ)
HD	; HORIZONTAL DRIVE
INVI	; INVERTER
SP	; *INPUT DATA SERIAL/PARALLEL* SWITCH (H: SERIAL)
TST1-TST3	; TEST MODE SELECT
VD	; VERTICAL DRIVE
XH1	; CLOCK FOR COMPENSATION DATA
XV1	; LINE COUNTER INPUT TERMINAL

OUTPUT

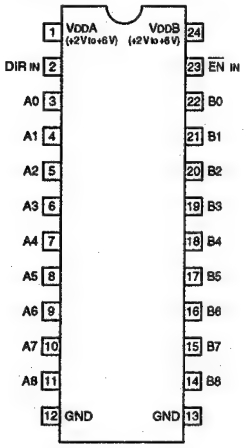
A4-A6	; DATA ADDRESS
GP1-GP3	; GATE PULSE FOR COMPENSATION DATA (R, G, B-CH)
INVO	; INVERTER
PRTY	; 12-BIT DATA PARITY CHECK (H: EVEN)
TO0-TO9	; TEST TERMINAL FOR INTERNAL DATA OUTPUTS
XVCT	; ROM POWER VOLTAGE CONTROL TERMINAL

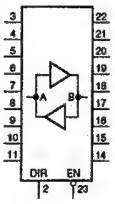
INPUT/OUTPUT

A0-A3	; DATA ADDRESS OUTPUTS *(DATA ADDRESS INPUTS;μ-COM MODE)*

HD151015TEL (HITACHI)FLAT PACKAGELT

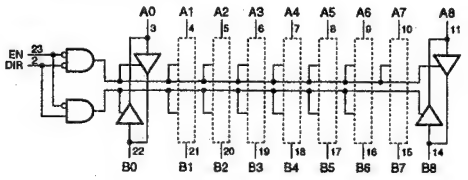
C-MOS 9-BIT LEVEL SHIFTER/TRANSCEIVER WITH 3-STATE OUTPUTS
— TOP VIEW —





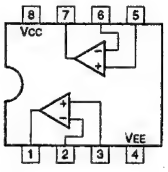
EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	Hi-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



LT1253CS8-E2 (LINEAR TECHNOLOGY)FLAT PACKAGE

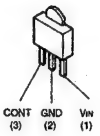
DUAL VIDEO AMPLIFIER
-TOP VIEW-

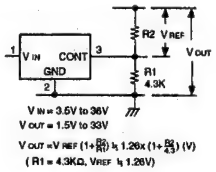


	VCC	VEE
SINGLE SUPPLY	+4 to +28V	GND
SPLIT SUPPLIES	+2 to +14V	−2 to −14V

M5237ML-TP1 (MITSUBISHI)

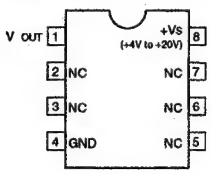
ADJUSTABLE VOLTAGE REGULATOR

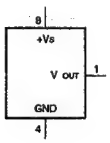




LM35DMX (NSC)FLAT PACKAGE

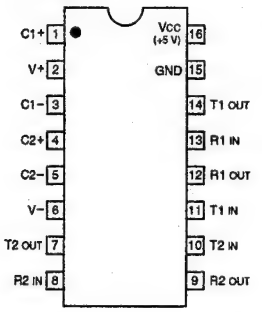
TEMPERATURE SENSOR
—TOP VIEW—

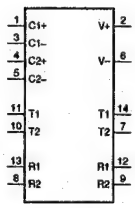




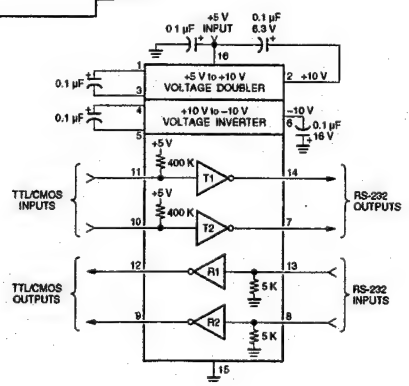
MAX202CSE-TE2 (MAXIM)

RS-232 TRANSMITTER/RECEIVER
— TOP VIEW —



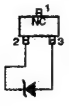


R1, 2 ; RECEIVER 1, 2
T1, 2 ; TRANSMITTER 1, 2



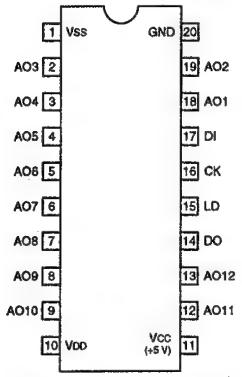
LM4040AIM3-2.5 (NS)

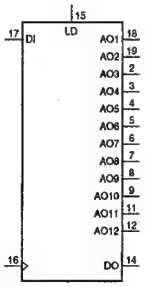
PRECISION MICROPOWER SHUNT VOLTAGE REFERENCE
— TOP VIEW —



M62352GP-75ED (MITSUBISHI)FLAT PACKAGE

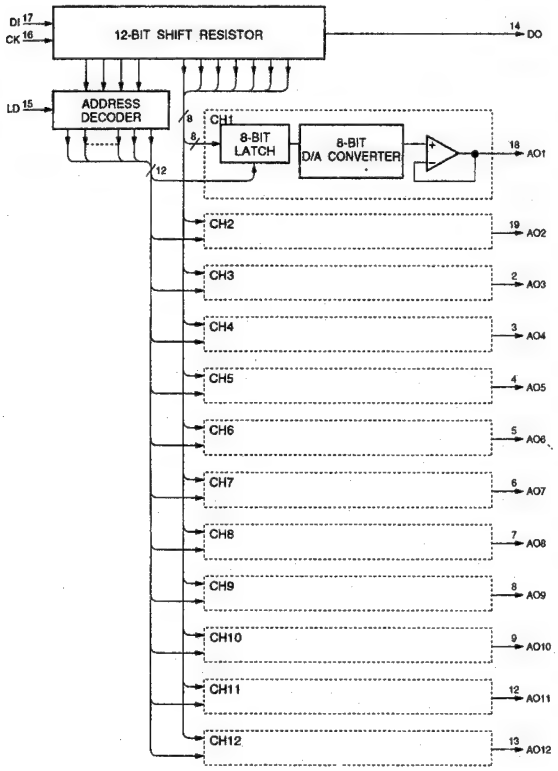
C-MOS 8-BITx12 CHANNEL D/A CONVERTER
(WITH BUFFER OPERATIONAL AMPLIFIER)
— TOP VIEW —





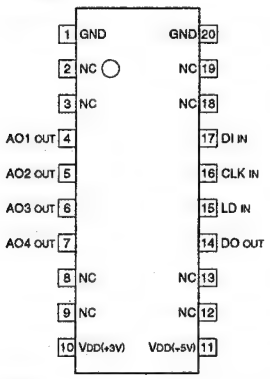
AO1-AO12 ; 8-BIT D/A OUTPUTS
CK ; CLOCK INPUT
DI ; SERIAL DATA INPUT
DO ; DATA OUTPUT

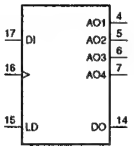
NOTE:
3.5 V < VDD < VCC
−3.5 V < VSS < VCC



MB88351PFV-ER (FUJITSU)FLAT PACKAGE

C-MOS 12-BIT D / A CONVERTER WITH OPERATIONAL AMPLIFIER
-TOP VIEW-



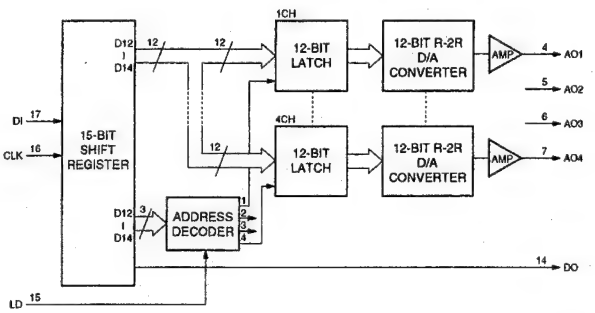


INPUT
CLK ; CHIFT CLOCK
DI ; SERIAL DATA
LD ; DECODER AND D/A REGISTER TO LOAD

OUTPUT
AO1 - AO4 ; ANALOG DATA
DO ; MBS BIT DATA IN 15-BIT SHIFT REGISTER

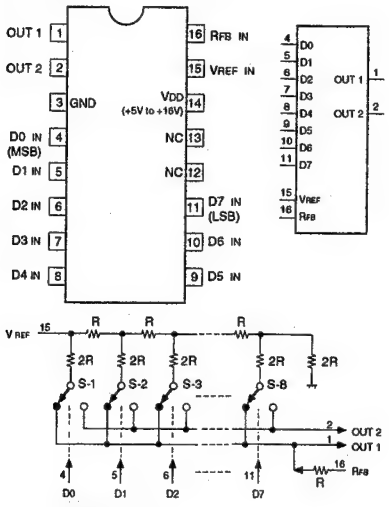
D12	D13	D14	ADDRESS SELECT
0	0	0	DON'T CARE
0	0	1	AO1 SELECT
0	1	0	AO2 SELECT
0	1	1	AO3 SELECT
1	0	0	AO4 SELECT
1	0	1	DON'T CARE
1	1	0	DON'T CARE
1	1	1	DON'T CARE

0 ; LOW LEVEL
1 ; HIGH LEVEL



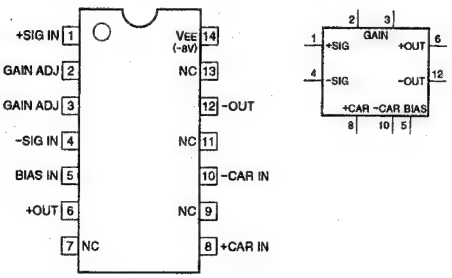
MP7523JS-T2 (MICRO POWER SYSTEMS)FLAT PACKAGE

C-MOS 8-BIT D/A CONVERTER
-TOP VIEW-



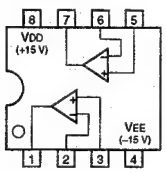
NJM1496V-TE2 (JRC)FLAT PACKAGE

BALANCED MODULATOR/DEMODULATOR
-TOP VIEW-



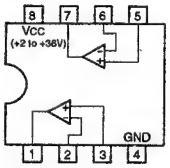
NJM2043M-D-TE2 (JRC)FLAT PACKAGE
TL062CPW-E05 (TI)FLAT PACKAGE
UPC812G2-T2 (NEC)FLAT PACKAGE

DUAL OPERATIONAL AMPLIFIER
— TOP VIEW —



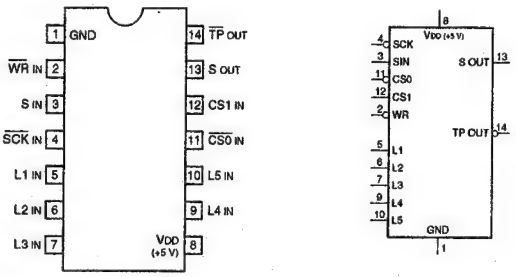
NJM2903V(TE2) (FSC)

DUAL VOLTAGE COMPARATORS
—TOP VIEW—



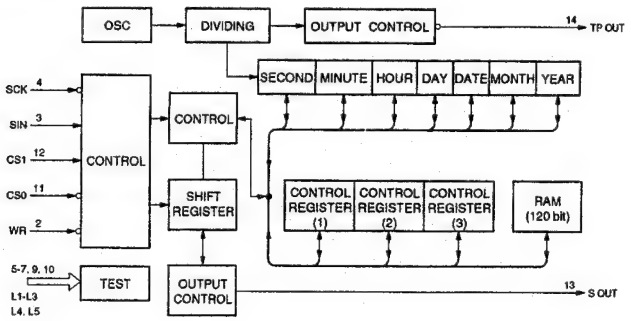
RTC-4553B-L2 (EPSON)

C-MOS REAL TIME CLOCK
— TOP VIEW —



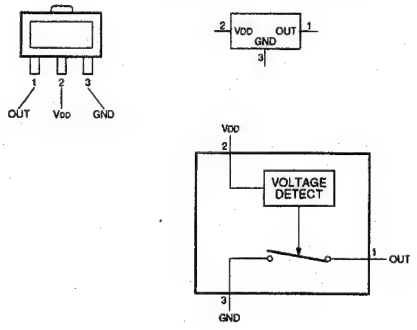
INPUT
CS0 ; CHIP SELECT (L: ACCESS ENABLE, H: SOUT HIGH Z)
CS1 ; POWER DOWN DETECTION
L1-L5 ; TEST IN
SCK ; SERIAL SYNC SIGNAL
SIN ; SERIAL ADDRESS/DATA
WR ; WRITING SELECT (L: WRITING, H: READING)

OUTPUT
SOUT ; SERIAL ADDRESS/DATA
TPOUT ; REFERENCE SIGNAL



S-8054HN-CB-T1 (SEIKO I AND E)

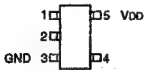
C-MOS VOLTAGE DETECTOR WITH N-CHANNEL OPEN DRAIN OUTPUT
-TOP VIEW-

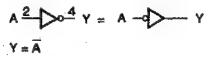


SC7S04F (MOTOROLA)CHIP PACKAGE
TC4S69F(TE85R) (TOSHIBA)CHIP PACKAGE
TC7S04F(TE85R) (TOSHIBA)CHIP PACKAGE
TC7S04FU(TE85R) (TOSHIBA)FLAT PACKAGE

C-MOS INVERTER

-TOP VIEW-





$Y = \overline{A}$

A	Y
0	1
1	0

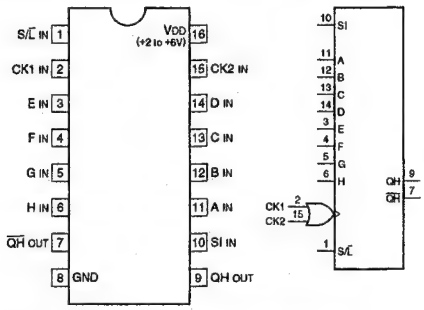
0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
7S04F 7SU04F 7SU04FU	+2 to +6V
4S69F 4SU69F	+3 to +18V
7SH04FU 7SHU04FU	+2 to +5.5V

SN74HC165ANS-E05 (TI)FLAT PACKAGE
SN74HC165APW-E05 (TI)FLAT PACKAGE
TC74VHC165FS(EL) (TOSHIBA)FLAT PACKAGE

C-MOS SERIAL-OR PARALLEL-INPUT SHIFT REGISTER

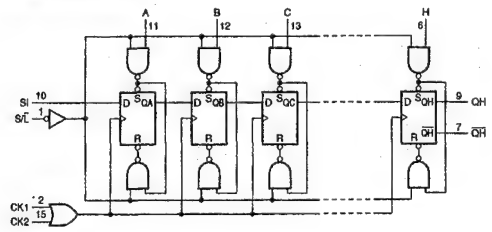
-TOP VIEW-



SI ; SERIAL DATA IN
A-H ; PARALLEL DATA IN
CK1,CK2 ; CLOCK IN (↓)
S/L ; SHIFT/LOAD IN
QH QH ; 8th BIT OUT (COMPLEMENTALY)

INPUTS				CONTENTS		OUTPUT	OPERATION
S/L	CK1+CK2	SI	A----------H	QA	QB-----	QH	
0	X	X	a----------h	a	b-----	h	PARALLEL LOAD
1	↓	0	X	0	QAo---	QGo	RIGHT SHIFT
1	↓	1	X	1	QAo---	QGo	
1	↑	X	X	QAo	QBo---	QHo	NO COUNT
1	0	X	X	QAo	QBo---	QHo	
1	1	X	X	QAo	QBo---	QHo	

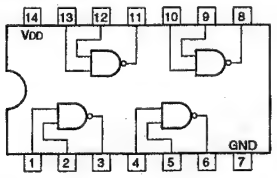
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
a-h ; LEVEL OF INPUTS A-H
QAo-QHo ; LEVEL OF QA-QH BEFORE THE INDICATED INPUT CONDITIONS WERE ESTABLISHED

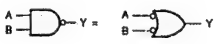


SN74HC00APW-E05 (TI)FLAT PACKAGE
TC74VHC00FS(EL) (TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS QUAD 2-INPUT NAND GATES

-TOP VIEW-





$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

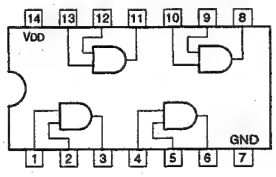
NOTE:

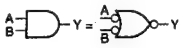
TYPE	VDD
74AC/74VHC	+2 to +5.5V
74ACT/74HCT	+4.5 to +5.5V
74LCX	+2 to +3.6V
OTHER TYPES	+2 to +6V

SN74HC08APW-E05 (TI)FLAT PACKAGE
SN74HCT08APW-E05 (TI)FLAT PACKAGE

C-MOS QUAD 2-INPUT AND GATE

- TOP VIEW -





$Y = A \cdot B = \overline{\overline{A} + \overline{B}}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

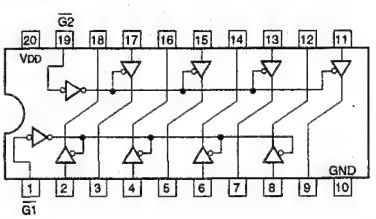
NOTE :

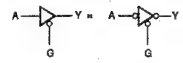
TYPE	VDD
AC	+2 to +5.5V
TC40H	+2 to +8V
ACT/HCT	+5V
OTHER TYPES	+2 to +6V

SN74HC244APW-E05 (TI)
SN74HCT244APW-E05 (TI)FLAT PACKAGE

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS

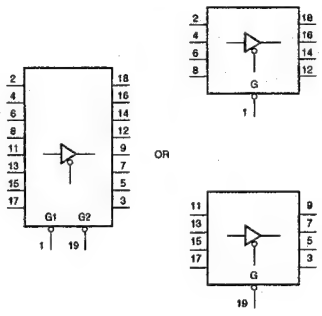
-TOP VIEW-





G	A	Y
0	0	0
0	1	1
X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

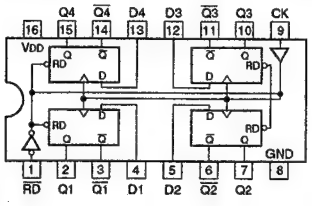


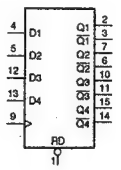
NOTE:

TYPE	VDD
74HC 40H	+2 to +6V
74ACT 74BCT 74FCT 74HCT	+4.5 to +5.5V
74LCX	+2 to +3.6V
74AC/74VHC	+2 to +5.5V

SN74HC175APW-E05 (TI)FLAT PACKAGE

C-MOS QUAD D-TYPE FLIP-FLOPS WITH RESET
-TOP VIEW-





RD	CK	D	Q	$\overline{Q}$
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Q_0	$\overline{Q_0}$

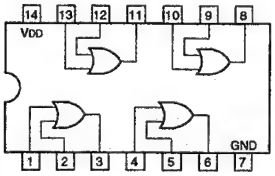
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
Q_0 ; NO CHANGE
$\overline{Q_0}$; NO CHANGE

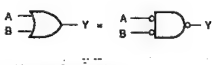
NOTE:

TYPE	VDD
AC TYPE	+2V to +5.5V
74ACT175 TYPE	+4.5V to 5.5V
OTHER TYPES	+2V to 6V

SN74HC32APW-E05 (TI)FLAT PACKAGE

C-MOS QUAD 2-INPUT OR GATES
-TOP VIEW-





$Y = A + B = \overline{\overline{A} \cdot \overline{B}}$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

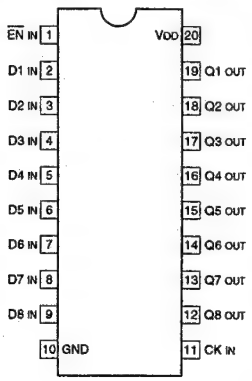
0 ; LOW LEVEL
1 ; HIGH LEVEL

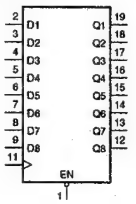
NOTE:

TYPE	VDD
74AC/74VHC	+2 to +5.5V
74HC	+2 to +6V
74HCT	+4.5 to +5.5V

SN74HC574APW-E05 (TI)
TC74VHC574FS(EL) (TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
-TOP VIEW-

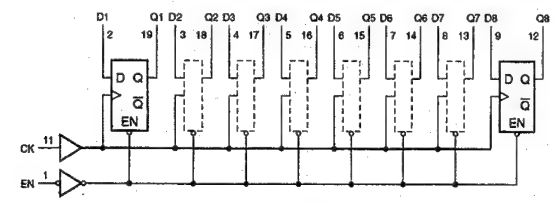




EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	↑	1	1
0	↑	0	0
0	↓	X	Q_0
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q_0 ; NO CHANGE

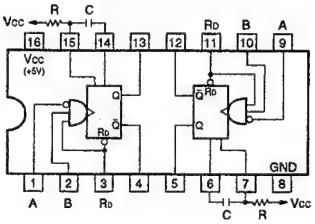


NOTE;

TYPE	VDD
74HC	+2 to +6V
74AC/74VHC	+2 to +5.5V
74ACT/74FCT/74HCT	+4.5 to +5.5V
74LCX	+2 to 3.6V
74LVC	+2.7 to 3.6V

SN74LS123NS-E05 (TI)FLAT PACKAGE

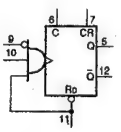
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATORS WITH DIRECT RESET
—TOP VIEW—

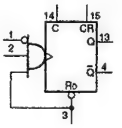


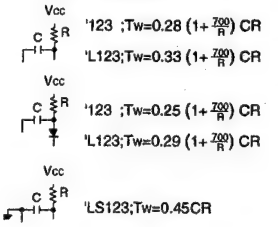
INPUTS			OUTPUTS	
Rd	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⊓	⊔
1	↓	1	⊓	⊔
↑	0	1	⊓	⊔

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH

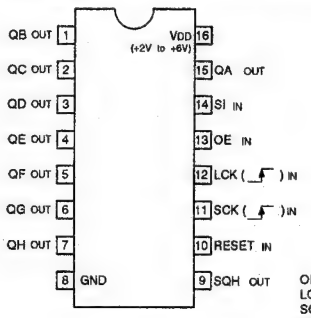


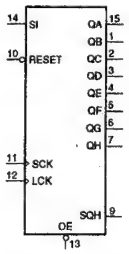




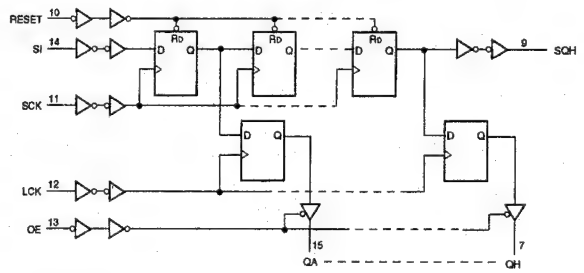
SN74HC595ADB-E05 (TI)FLAT PACKAGE(SMALL)
SN74HC595ANS-E05 (TI)FLAT PACKAGE

C-MOS 8-BIT SERIAL-INPUT/SERIAL- OR PARALLEL-OUTPUT
SHIFT REGISTER WITH LATCHED 3-STATE OUTPUT
—TOP VIEW—



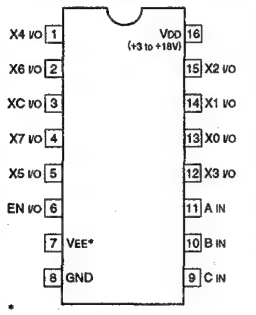


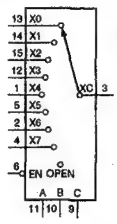
OE ; OUTPUT ENABLE INPUT
LCK ; LATCH CLOCK INPUT
SCK ; SHIFT CLOCK INPUT
RESET ; SHIFT-REGISTER RESET INPUT
SI ; SERIAL IN
QA-QH ; PARALLEL OUTPUT
SQH ; SERIAL OUT



TC4051BFS(EL) (TOSHIBA)FLAT PACKAGE

C-MOS 8-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
-TOP VIEW-





CONTROL INPUTS				SELECTED CHANNEL
EN	C	B	A	
0	0	0	0	X0
0	0	0	1	X1
0	0	1	0	X2
0	0	1	1	X3
0	1	0	0	X4
0	1	0	1	X5
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	OPEN

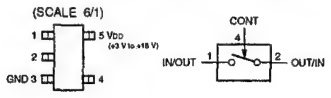
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

X0 to X7 ; ANALOG INPUTS/OUTPUTS
XC ; COMMON INPUT/OUTPUT
A,B,C ; CHANNEL SELECT INPUT
EN ; ENABLE INPUT

*
VEE ; VDD-VEE=+3 to +18V

TC4S66F(TE85R) (TOSHIBA)CHIP PACKAGE

C-MOS BILATERAL ANALOG SWITCH
—TOP VIEW—

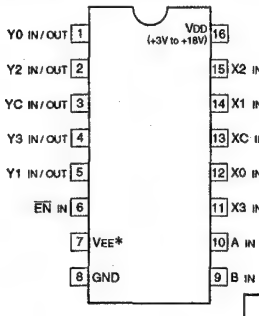


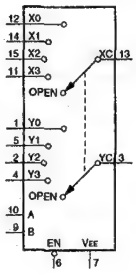
CONT	SWITCH
0	OFF
1	ON

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC4052BFS(ELQ) (TOSHIBA)FLAT PACKAGE

C-MOS DUAL 4-CHANNEL ANALOG MULTIPLEXERS / DEMULTIPLEXERS
-TOP VIEW-





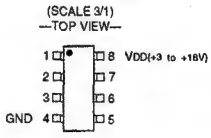
VEE* : VDD – VEE = +3V to +18V

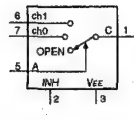
CONTROL INPUTS			"ON" CHANNEL
EN	B	A	
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC4W53FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS 2-CHANNEL MULTIPLEXER / DEMULTIPLEXER



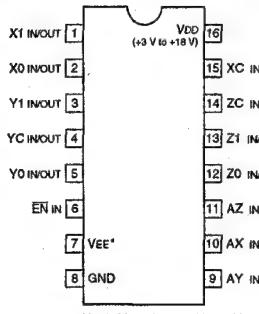


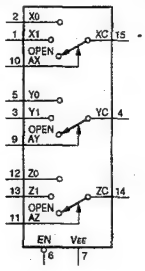
CONT.INPUT		ON CHANNEL
INH	A	
0	0	ch0
0	1	ch1
1	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC4053BFS-EL (TOSHIBA)FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS
— TOP VIEW —





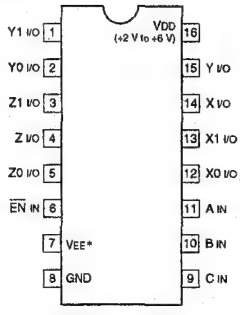
VEE*; VDD – VEE + 3 V + 18 V

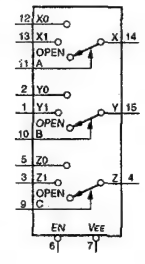
CONT. INPUTS		ON CHANNEL
EN	A (X, Y, Z)	
0	0	0
0	1	1
1	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC4053AFS-EL (TOSHIBA)FLAT PACKAGE

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
-TOP VIEW-





VEE*: VDD – VEE = +3 V to +12 V
VEE ≦ GND

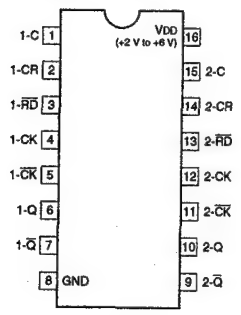
CONTROL INPUTS				ON CHANNEL		
EN	SELECT C	SELECT B	SELECT A			
0	0	0	0	Z0	Y0	X0
0	0	0	1	Z0	Y0	X1
0	0	1	0	Z0	Y1	X0
0	0	1	1	Z0	Y1	X1
0	1	0	0	Z1	Y0	X0
0	1	0	1	Z1	Y0	X1
0	1	1	0	Z1	Y1	X0
0	1	1	1	Z1	Y1	X1
1	X	X	X	OPEN		

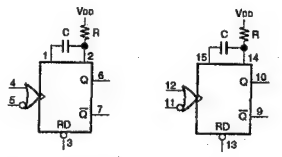
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC74HC4538AFS-EL (TOSHIBA)FLAT PACKAGE

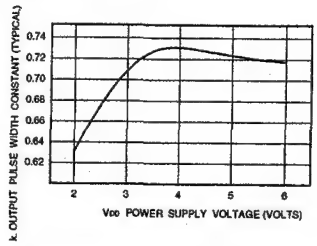
C-MOS DUAL RETRIGGERABLE / NON-RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

-TOP VIEW -

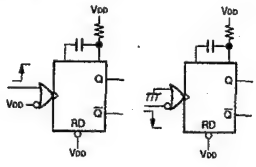




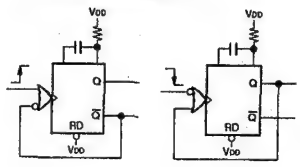
OUTPUT PULSE WIDTH = k · C · R



RETRIGGERABLE M. M. V



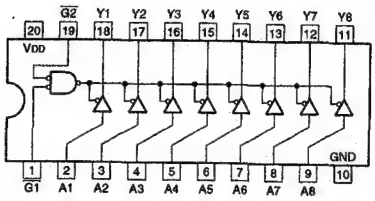
NON-RETRIGGERABLE M. M. V

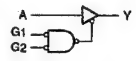


TC74VHC541FS(EL) (TOSHIBA)FLAT PACKAGE(SMALL)

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

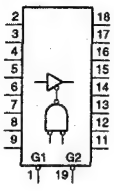
- TOP VIEW -





G1	G2	A	Y
0	0	0	1
0	0	1	0
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE



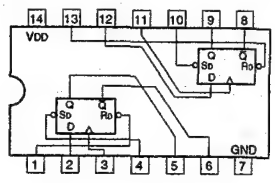
NOTE :

TYPE	VDD
TC74AC/TC74VHC	+2 to +5.5V
ABT/ACT/BCT/HCT/VHCT	+5V
OTHER TYPES	+2 to +6V

TC74VHC74FS(EL) (TOSHIBA)FLAT PACKAGE(SMALL)

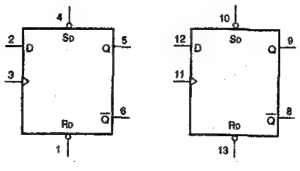
C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET

-TOP VIEW-



INPUTS				OUTPUTS	
$\overline{Sd}$	$\overline{Rd}$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE



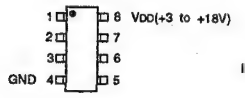
NOTE:

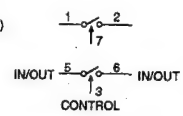
TYPE	VDD
74HCT/74ACT	+4.5 to +5.5V
74LVC	+2.7 to +3.6V
74AC/74VHC	+2 to +5.5V
OTHERS	+2 to +6V

TC4W66FU(TE12R) (TOSHIBA)FLAT PACKAGE

C-MOS DUAL BILATERAL SWITCH

(SCALE 3/1)
—TOP VIEW—





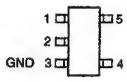
CONTROL	SWITCH
0	OFF
1	ON

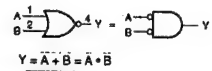
0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7S02FU(TE85R)(TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT NOR GATE

(SCALE 6/1)
—TOP VIEW—





$Y = \overline{A} + B = \overline{A} \cdot \overline{B}$

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

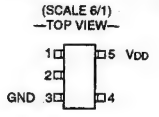
0 ; LOW LEVEL
1 ; HIGH LEVEL

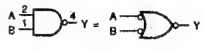
TYPE	VDD
4S01F	+3 to +18V
7S02F	+2 to +6V
7S02FU	
7SH02FU	

TC7S08F(TE85R) (TOSHIBA)CHIP PACKAGE
TC7S08FU(TE85R) (TOSHIBA)FLAT PACKAGE
TC7SH08FU-TE85R (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT AND GATE

(SCALE 6/1)
—TOP VIEW—





$Y = A \cdot B = \overline{A} + \overline{B}$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

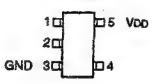
0 ; LOW LEVEL
1 ; HIGH LEVEL

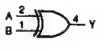
TYPE	VDD
7S08F 7S08FU	+2 to +6V
4S81F 14S81F	+3 to +18V
7SH08FU	−2 to +5.5V

TC7S86F(TE85R) (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT EXCLUSIVE OR GATE

(SCALE 6/1)
—TOP VIEW—





$Y = A \cdot B + A \cdot \overline{B}$

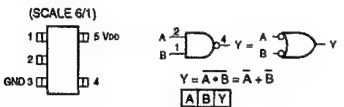
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
7S86FU 7S86F	+2 to +6V
4S30F	+3 to +18V

TC7SH00FU-TE85R (TOSHIBA)FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
—TOP VIEW—



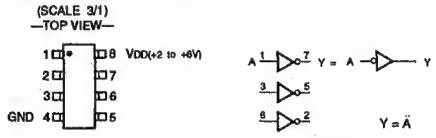
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
7S00F 7S00FU	+2 to +6 V
4S11F 4SU11F	+3 to +18 V
7SH00FU	+2 to +5.5 V

TC7W04FU(TE12R) (TOSHIBA)FLAT PACKAGE

C-MOS HEX INVERTERS

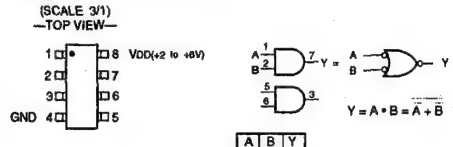


A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W08FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS 2-INPUT AND GATE

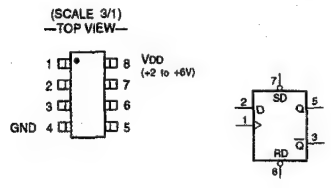


A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W74FU(TE12R) (TOSHIBA)CHIP PACKAGE

C-MOS D-TYPE FLIP-FLOPS WITH DIRECT SET / RESET
—TOP VIEW—

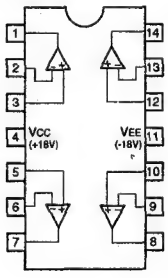


INPUTS				OUTPUTS	
$\overline{SD}$	$\overline{RD}$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	↓	X	Qn	$\overline{Qn}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

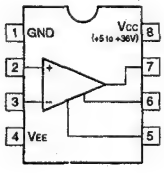
TL064CPW-E05 (TI)FLAT PACKAGE

OPERATIONAL AMPLIFIER
(J FET INPUT)
—TOP VIEW—



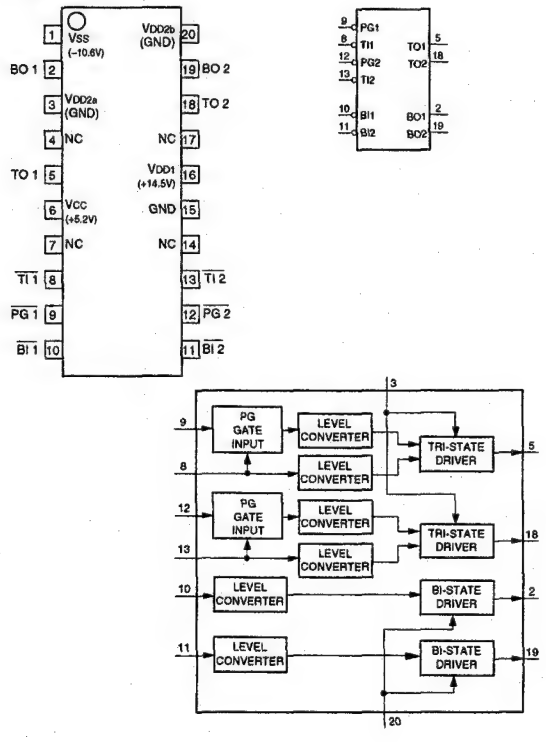
UPC311G2-E2 (NEC)FLAT PACKAGE

VOLTAGE COMPARATOR
-TOP VIEW-



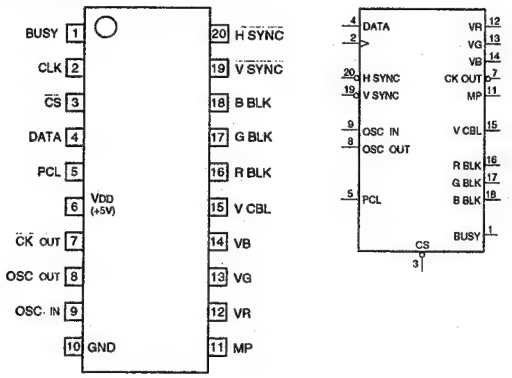
UPD16502GS-E2 (NEC)FLAT PACKAGE

C-MOS CCD DRIVER
—TOP VIEW—



UPD6453GT-610-E2 (NEC)FLAT PACKAGE

C-MOS ON-SCREEN CHARACTER DISPLAY
—TOP VIEW—

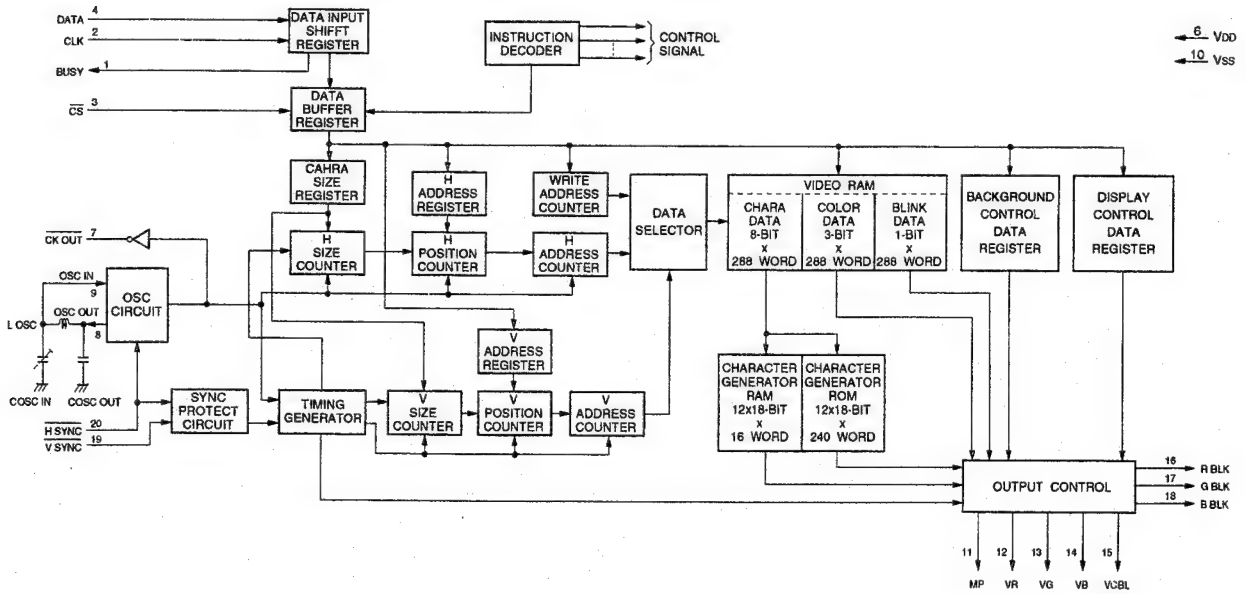


INPUT

CLK	;	CLOCK
CS	;	CHIP SELECT
DATA	;	SERIAL DATA
H SYNC	;	HORIZONTAL SYNC
OSC IN	;	OSCILLATOR IN
PCL	;	POWER ON CLEAR
V SYNC	;	VERTICAL SYNC

OUTPUT

BBLK, RBLK, GBLK	;	B, R, G, BLANKING
BUSY	;	BUSY OUT
CK OUT	;	CLOCK
MP	;	MASK PULSE
OSC OUT	;	OSCILLATOR OUT
VR, VG, VB	;	R, G, B, CHARACTER DATA
VCBL	;	VIDEO CUT BLANKING



SECTION 7
SPARE PARTS

7-1. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning

Components marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation.
Replace these components with Sony parts whose part numbers appear in this manual or in service bulletins and service manual supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or " standardization of genuine parts".
This manual's exploded views and electrical spare parts list are indicating the part numbers of "the standardized genuine parts at present" .

(3) Stock of Parts

Parts marked with "o" SP (Supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

(4) Units for Capacitors, Inductors and Resistors

The following units are assumed in schematic diagrams, electrical parts list and exploded views unless otherwise specified.

Capacitors : μF
Inductors : μH
Resistors : Ω

7-1. 補修用部品注意事項

(1) 安全重要部品

回路図、分解図、電気部品表中⚠印の部品は安全性を維持するために重要な部品です。従ってこれらの部品を交換するときには必ず指定の部品と交換して下さい。

(2) 部品の共通化

ソニーから供給される部品は、セットに実装されているものと異なることがあります。これは部品の共通化、改良等によるものです。
分解図や電気部品表には現時点での共通化された部品が記載されています。

(3) 部品の在庫

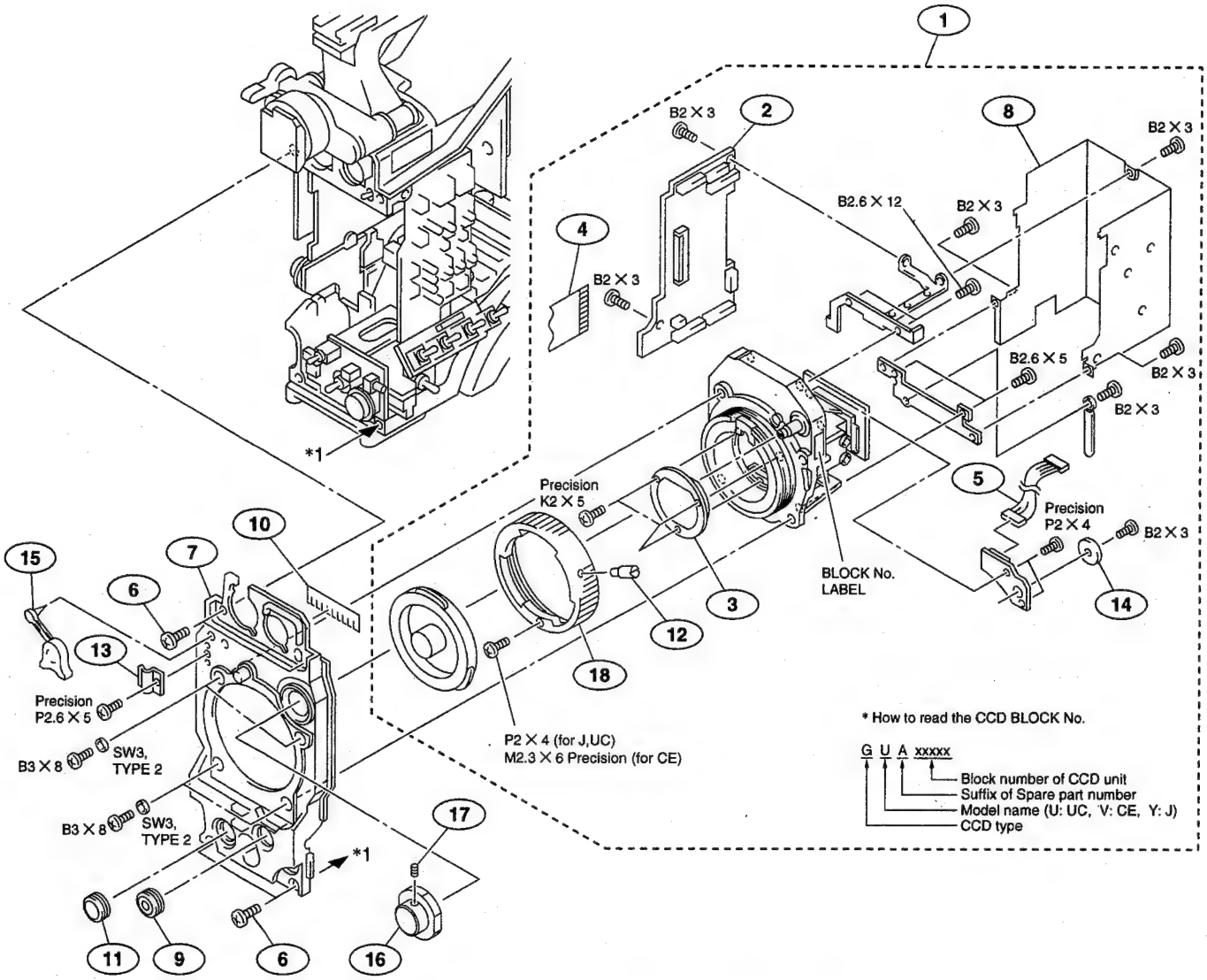
部品表のSP (Supply code) 欄にoで示される部品は交換頻度が低い部品ですので在庫していないことがあり、納期が長くなることがあります。

(4) コンデンサー、インダクター、抵抗の単位

回路図、分解図、電気部品表中、特に明記したものを除き、下記の単位は省略されています。

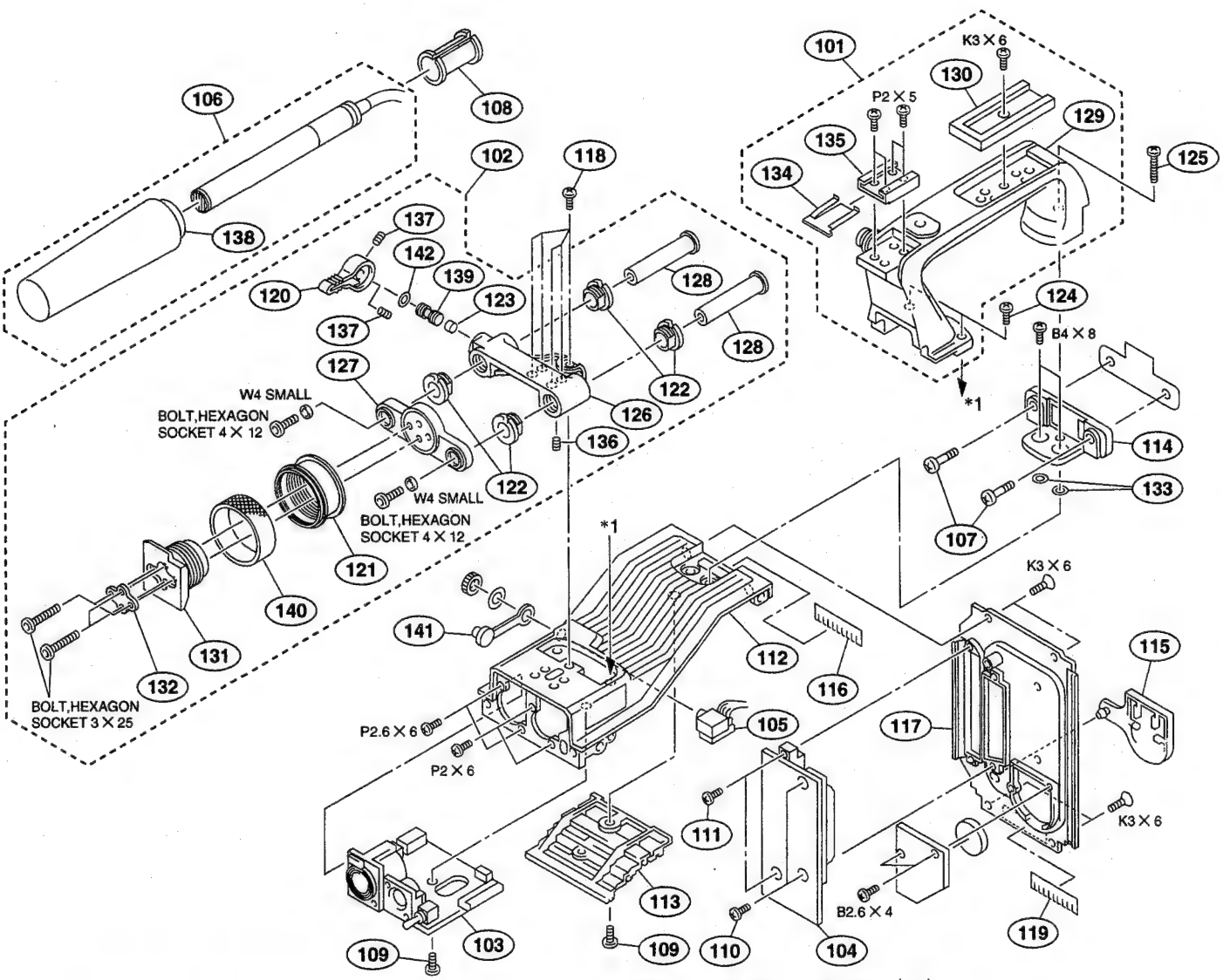
コンデンサー : μF
インダクター : μH
抵抗 : Ω

7-2. EXPLODED VIEWS



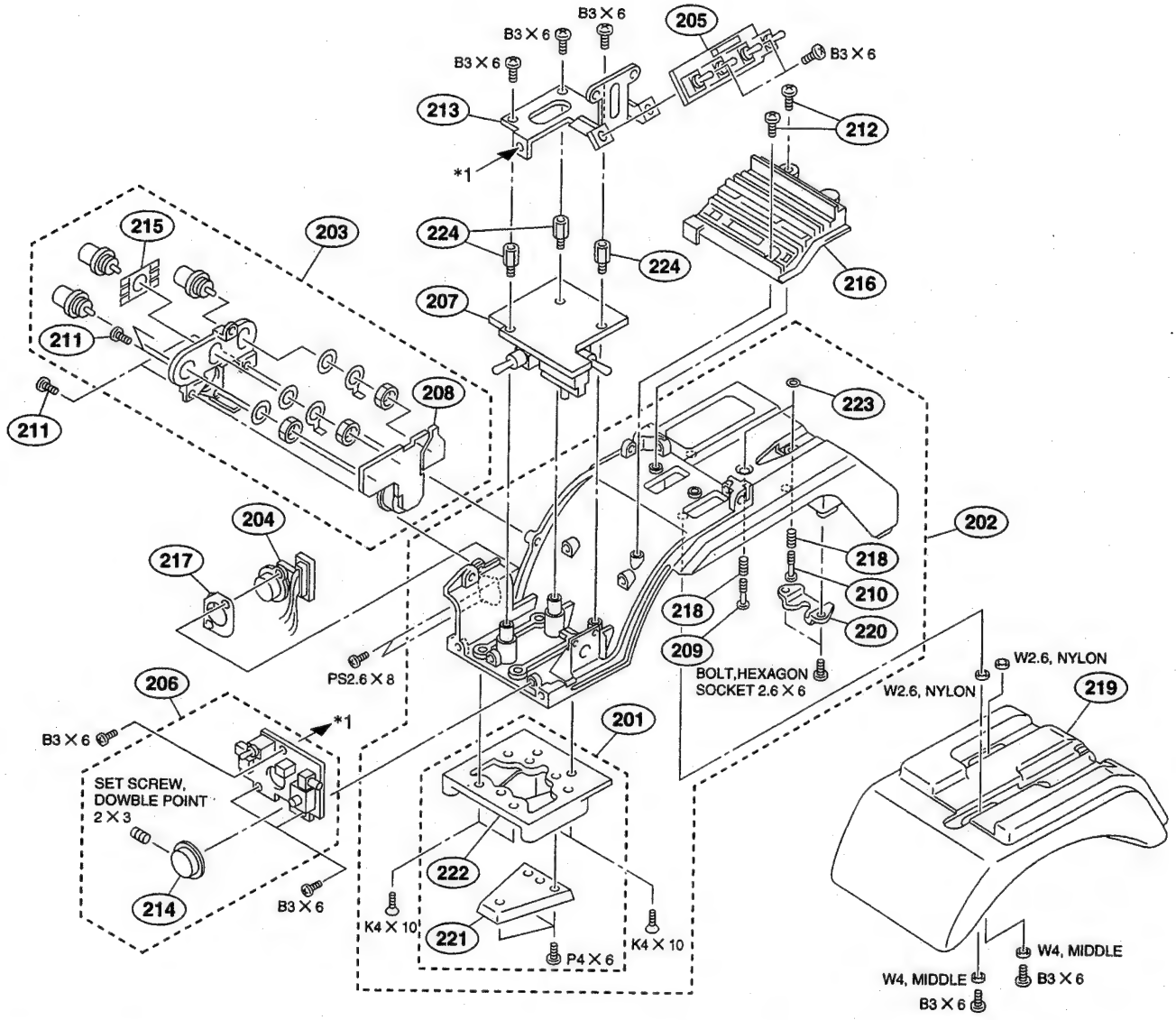
No.	Part No.	SP	Description
1	A-8311-106-A	s	CCD BLOCK ASSY (for UC)
	A-8311-144-A	s	CCD BLOCK ASSY (for CE)
	A-8311-157-A	s	CCD BLOCK ASSY (for J)
2	A-8311-107-A	o	MOUNTED CIRCUIT BOARD, TG-175 (For J,UC)
	A-8311-145-A	o	MOUNTED CIRCUIT BOARD, TG-175(P) (For CE)
3	1-547-985-11	o	FILTER UNIT, OPTICAL
4	1-777-768-11	s	WIRE, FLAT TYPE (30 CORE)
5	1-956-512-11	o	HARNESS, SUB (FL)
6	3-178-214-21	s	SCREW (M3X10), +B
7	3-604-362-01	o	PANEL, FRONT
8	3-604-384-01	o	CASE, SHIELD
9	3-604-391-01	o	COVER, SW(M)
10	3-604-394-01	o	FINGER, SHIELD(A)
11	3-672-221-02	s	PACKING, CONTROL
12	3-678-629-00	s	LEVER, MOUNT
13	3-678-684-00	o	HOLDER, CABLE
14	3-686-191-01	o	PLATE, FILTER-ID
15	3-686-269-02	s	STOPPER, MOUNT

No.	Part No.	SP	Description
16	3-688-781-02	s	KNOB, FILTER
17	3-701-506-01	s	SET SCREW, DOUBLE POINT 3X4
18	3-708-987-01	s	RING, BAYONET (for J, UC)
	3-708-651-01	s	RING, BAYONET (for CE)
	7-621-770-87	s	SCREW +B 2.6X5
	7-621-772-08	s	SCREW +B 2X3
	7-621-775-68	s	SCREW +B 2.6X12
	7-627-556-58	s	SCREW +P 2.6X5
	7-682-548-04	s	SCREW +B 3X8
	7-627-452-38	s	SCREW, PRECISION +K 2X5
	7-627-553-48	s	SCREW, PRECISION +P 2X4
	7-623-208-22	s	SPRING WASHER 3,TYPE 2



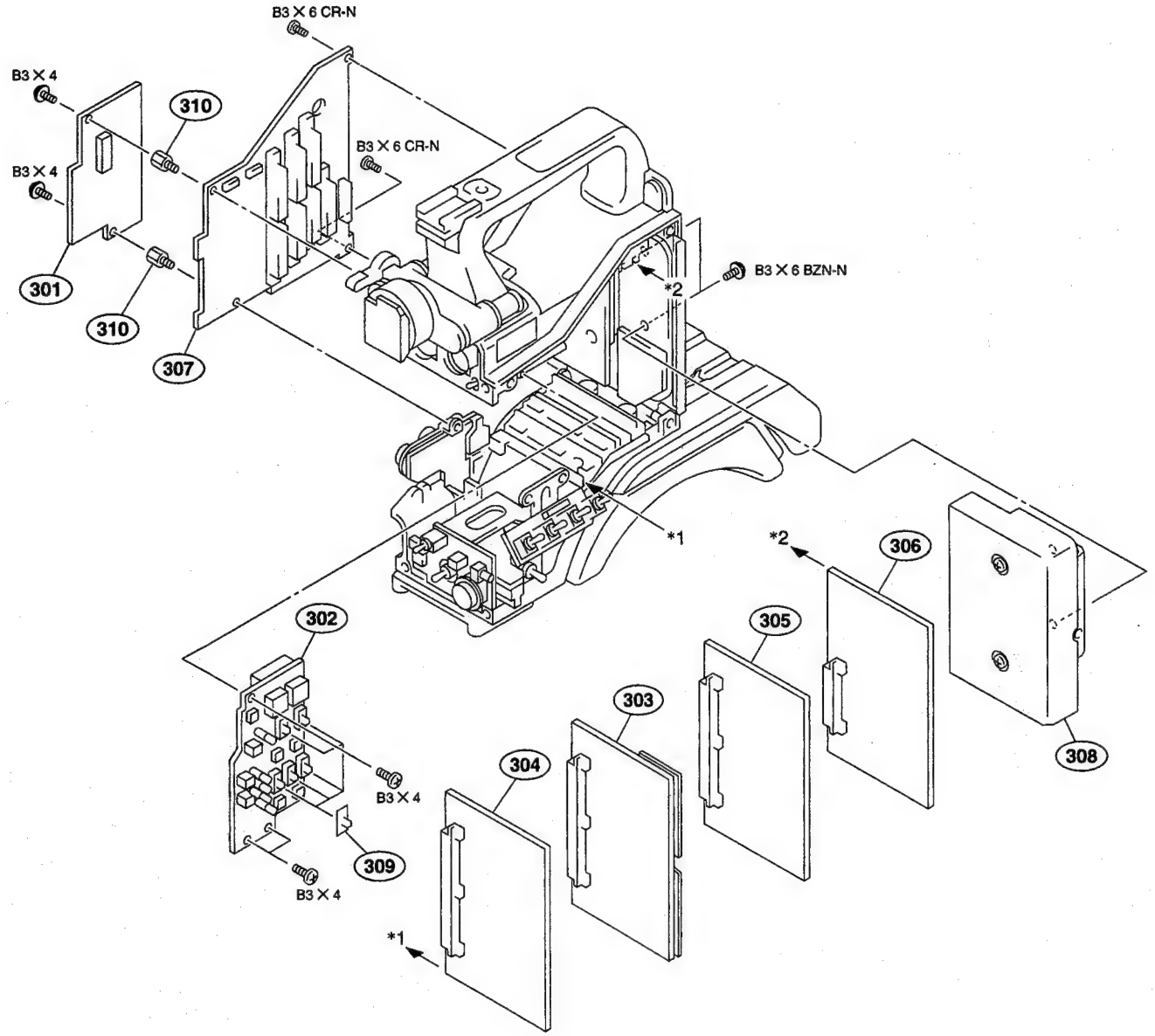
No.	Part No.	SP	Description
101	A-8278-380-A	s	HANDLE ASSY
102	A-8278-420-A	o	VF SLIDE ASSY(5)
103	A-8311-118-A	o	MOUNTED CIRCUIT BOARD, CN-1195
104	A-8311-134-A	o	MOUNTED CIRCUIT BOARD, CN-1294
105	A-8311-136-A	o	MOUNTED CIRCUIT BOARD, CN-1349
106	1-542-296-11	o	MICROPONE
107	3-175-715-02	s	SCREW, FITTING ADAPTOR
108	3-179-882-01	o	SPACER, MICROPONE
109	3-370-475-21	s	SCREW (NYLOCK +B 3X6)
110	3-603-959-01	s	NYLOK SCREW +B2.6
111	3-603-960-01	s	NYLOK SCREW +B2
112	3-604-363-02	o	CHASSIS, TOP
113	3-604-370-01	o	PB RAIL, UPPER
114	3-604-387-01	o	SPACER, HANDLE
115	3-604-393-01	s	COVER, BATTERY
116	3-604-394-01	o	FINGER, SHIELD(A)
117	3-604-407-02	o	CHASSIS, REAR
118	3-604-408-01	s	BOLT, HEXAGON SOCKET(NYLOCK 4X10)
119	3-604-451-01	o	FINGER, SHIELD(C)
120	3-673-046-00	s	LEVER, LOCK
121	3-679-543-11	o	RING(D), LOCK
122	3-679-684-01	o	REST, ARM
123	3-679-702-01	o	CUSION, STOPPER
124	3-685-694-01	s	NYLOCK +PSW M4X12
125	3-685-694-21	s	NYLOCK +PSW M4X18
126	3-686-195-11	o	SLIDE BASE, VF
127	3-686-196-02	o	RETAINER, VF SHOE
128	3-686-197-01	o	ARM,SLIDE
129	3-686-253-03	o	HANDLE
130	3-686-254-01	o	PLATE, BLIND
131	3-686-261-03	s	SHOE3, VF SLIDE
132	3-687-070-01	o	WASHER, SHOE
133	3-687-116-01	o	WASHER(4), STOPPER
134	3-688-754-11	s	SPRING, SHOE
135	3-688-755-11	s	SHOE, ACCESSORY
136	3-701-506-01	s	SET SCREW, DOUBLE POINT 3X4
137	3-701-508-00	s	SET SCREW, DOUBLE POINT 3X6
138	3-709-096-01	o	SCREEN, WIND
139	3-711-794-01	o	PIN, STOPPER
140	3-720-919-01	o	RUBBER, LOCK RING
141	3-849-405-00	s	COVER, EARPHONE JACK
142	3-895-622-01	s	RING (DIA. 5), O
	7-621-255-35	s	SCREW +P 2X5
	7-621-259-45	s	SCREW +P 2.6X6
	7-621-772-38	s	SCREW +B 2X6
	7-621-773-86	s	SCREW +B 2.6X4
	7-682-247-09	s	SCREW +K 3X6
	7-682-561-04	s	SCREW +B 4X8
	7-683-411-04	s	BOLT, HEXAGON SOCKET 3X25
	7-683-421-04	o	BOLT, HEXAGON SOCKET 4X12
	7-688-003-02	s	WASHER 3, SMALL
	7-688-004-02	o	WASHER 4, SMALL

CHASSIS BLOCK (2) AND BOARDS



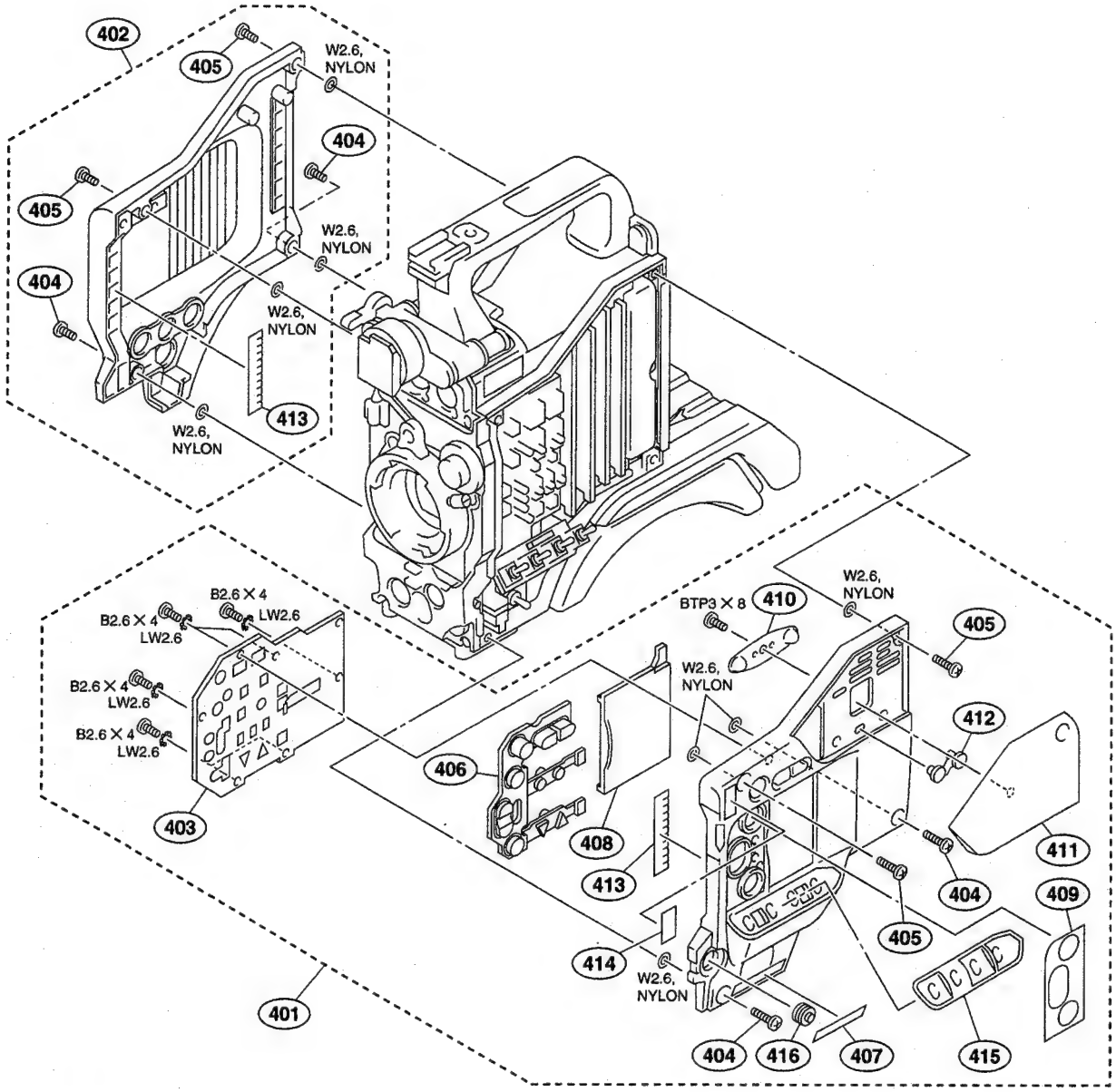
No.	Part No.	SP	Description
201	A-7612-352-E	s	V SHOE (A) ASSY
202	A-8278-241-B	o	BASE CHASSIS ASSY
203	A-8311-101-A	o	MOUNTED CIRCUIT BOARD, CN-1196 (For UC, CE)
	A-8311-155-A	o	MOUNTED CIRCUIT BOARD, CN-1196J (For J)
204	A-8311-102-A	o	MOUNTED CIRCUIT BOARD, CN-1194
205	A-8311-115-A	o	MOUNTED CIRCUIT BOARD, SW-791
206	A-8311-131-A	o	MOUNTED CIRCUIT BOARD, SW-792
207	A-8311-132-A	o	MOUNTED CIRCUIT BOARD, SW-793
208	1-663-030-11	o	PRINTED CIRCUIT BOARD, CN-1410 (For UC, CE)
	1-663-029-11	o	PRINTED CIRCUIT BOARD, CN-1409(J) (For J)
209	3-175-715-02	s	SCREW, FITTING ADAPTOR
210	3-175-715-31	s	SCREW, FITTING ADAPTOR
211	3-178-214-01	s	SCREW (M3X6), +B
212	3-370-475-21	s	SCREW (NYLOCK +B 3X6)
213	3-604-383-01	o	BRACKET, SW
214	3-604-390-01	s	KNOB, VR
215	3-604-416-01	o	FINGER, SHIELD(CN)

No.	Part No.	SP	Description
216	3-604-437-01	o	PB RAIL, LOWER
217	3-687-194-01	o	SPRING 2
218	3-694-121-01	s	SPRING, COMPRESSION
219	3-694-122-02	s	PAD, SHOULDER
220	3-711-703-01	o	STOPPER
221	3-716-391-01	o	WEDGE, MOUNTING
222	3-729-065-04	s	SHOE (A), CAMERA
223	3-892-114-00	s	RING (DIA. 3), O
224	4-969-349-01	o	BOSS (H)
	7-628-254-20	s	SCREW +PS 2.6X8
	7-682-160-09	s	SCREW +P 4X6
	7-682-262-09	s	SCREW +K 4X10
	7-682-547-04	s	SCREW +B 3X6
	7-621-732-09	s	SET-SCT HEXAGON 2X3
	7-683-412-05	s	BOLT, HEXAGON SOCKET 2.6X6
	7-623-923-11	s	WASHER 2.6, NYLON
	7-688-004-12	s	WASHER 4, MIDDLE



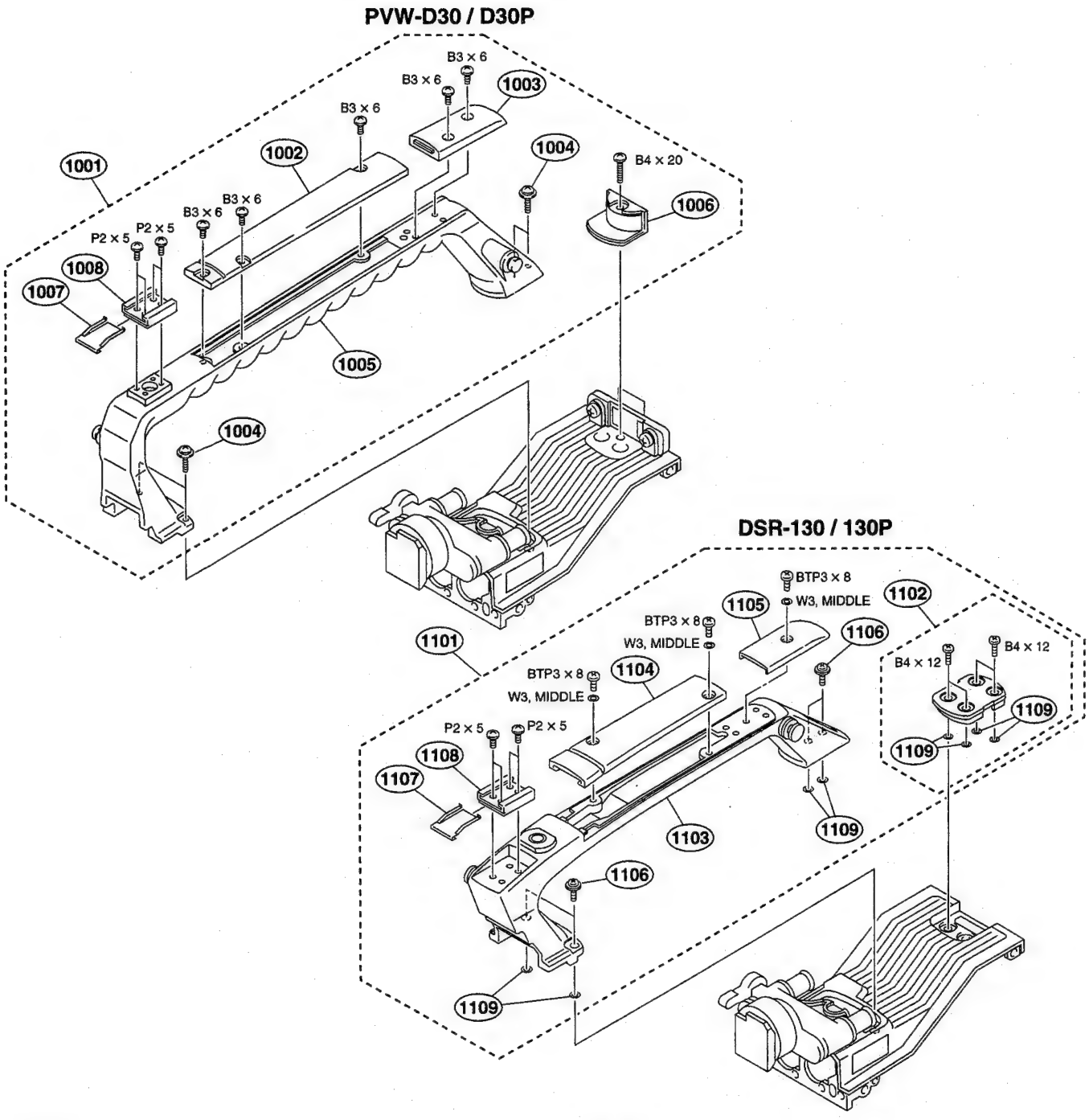
No.	Part No.	SP	Description
301	A-8311-116-A	o	MOUNTED CIRCUIT BOARD, AT-110
302	A-8311-119-A	o	MOUNTED CIRCUIT BOARD, SW-790
303	A-8311-121-A	o	MOUNTED CIRCUIT BOARD, PR-216
304	A-8311-123-A	o	MOUNTED CIRCUIT BOARD, VA-169
305	A-8311-125-A	o	MOUNTED CIRCUIT BOARD, IF-532
306	A-8311-127-A	o	MOUNTED CIRCUIT BOARD, ES-12 (For J,UC)
	A-8311-141-A	o	MOUNTED CIRCUIT BOARD, ES-12(P) (For CE)
307	A-8311-129-A	o	MOUNTED CIRCUIT BOARD, MB-629
308	1-473-883-11	s	CONVERTER UNIT, DC-DC
309	3-604-357-01	o	KNOB(L), SW
310	4-969-349-01	o	BOSS (H)
	7-682-545-04	s	SCREW +B 3X4
	7-682-547-04	s	SCREW +B 3X6 CR-N
	7-682-547-09	s	SCREW +B 3X6 BZN-N

CHASSIS BLOCK (2)



No.	Part No.	SP	Description
401	A-8278-395-B	o	RIGHT PANEL ASSY (For UC, CE)
	A-8278-398-B	o	RIGHT PANEL ASSY(J) (For J)
402	A-8278-396-B	o	LEFT PANEL ASSY
403	X-3678-738-1	o	PLATE ASSY
404	3-178-214-21	s	SCREW (M3X10), +B
405	3-178-214-41	s	SCREW (M3X14), +B
406	3-604-366-02	s	COVER, SWITCH
407	3-604-371-01	o	LABEL, POWER
408	3-604-380-03	s	DOOR, SIDE
409	3-604-382-01	o	PLATE, ATW-SW
410	3-604-385-02	s	SPRING, PAD
411	3-604-386-01	s	PAD, SIDE
412	3-604-392-01	s	STOPPER
413	3-604-395-01	o	FINGER, SHIELD(B)
414	3-604-403-01	o	LABEL, FILTER (For UC, CE)
	3-604-404-01	o	LABEL, FILTER (For J)
415	3-604-692-01	o	PLATE, TOGGLE
416	3-676-244-00	s	COVER, SWITCH

Part No.	SP	Description
7-621-773-86	s	SCREW +B 2.6X4
7-685-546-19	s	SCREW +BTP 3X8 TYPE2 N-S
7-623-307-01	s	LW 2.6, TYPE (A)
7-623-923-11	s	WASHER 2.6, NYLON



PVW-D30

No.	Part No.	SP	Description
1001	A-8311-272-A	s	HANDLE ASSY (for PVW-D30/D30P)
1002	3-679-035-01	o	LID, HANDLE
1003	3-679-036-01	o	LID, HANDLE(2)
1004	3-685-694-01	s	NYLOCK +PSW M4
1005	3-686-381-04	o	HANDLE,(PVW)
1006	3-686-382-01	s	PLATE, BLIND
1007	3-688-754-11	o	SPRING, SHOE
1008	3-688-755-12	o	SHOE, ACCESSORY

DSR-130

No.	Part No.	SP	Description
1101	A-8311-936-A	s	HANDLE ASSY (for DSR-130/130P)
1102	A-8278-419-A	s	JOINT PLATE ASSY
1103	3-604-743-01	o	HANDLE(DSR)
1104	3-604-744-01	o	LID, HANDLE(1)
1105	3-604-745-01	o	LID, HANDLE(2
1106	3-604-746-01	s	NYLOCK +PWH 4X12
1107	3-688-754-11	o	SPRING, SHOE
1108	3-688-755-12	o	SHOE, ACCESSORY
1109	3-687-116-01	o	WASHER, 4 STOPPER
	7-621-255-35	s	SCREW, +P 2X5
	7-682-547-09	s	SCREW, +B 3X6
	7-682-563-09	s	SCREW, +B 4X12
	7-682-566-09	s	SCREW, +B 4X20
	7-685-546-19	s	SCREW, +BTP 3X8
	7-688-003-12	s	WASHER, 3 MIDDLE

7-3. ELECTRICAL PARTS LIST

AT-110 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-116-A	o	MOUNTED CIRCUIT BOARD, AT-110
C101	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C102	1-113-642-11	s	TANTALUM 47uF 20% 10V
C103	1-113-642-11	s	TANTALUM 47uF 20% 10V
C104	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C105	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C106	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C107	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C109	1-107-689-21	s	TANTALUM 1uF 20% 35V
C110	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C111	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C112	1-113-642-11	s	TANTALUM 47uF 20% 10V
C113	1-113-642-11	s	TANTALUM 47uF 20% 10V
C114	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C115	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C116	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C117	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C118	1-164-156-11	s	CERAMIC 0.1uF 25V
C119	1-164-156-11	s	CERAMIC 0.1uF 25V
C120	1-164-156-11	s	CERAMIC 0.1uF 25V
C121	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C122	1-164-156-11	s	CERAMIC 0.1uF 25V
C123	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C124	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C125	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C126	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C127	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C128	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C129	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C130	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C131	1-113-642-11	s	TANTALUM 47uF 20% 10V
C132	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
CN101	1-770-451-21	o	CONNECTOR, BOARD TO BOARD 70P
CNI102	1-251-496-21	o	SOCKET, IC
D101	8-719-421-69	s	DIODE MA133
D102	8-719-975-40	s	DIODE RB411D
D103	8-719-421-69	s	DIODE MA133
IC101	8-759-421-83	s	IC HD6437034SC81F
IC102	8-759-441-72	s	IC MSM27C822-DXCD30V100
IC103	8-752-371-38	s	IC CXK58257BTM-70LL-T6
IC104	8-752-371-38	s	IC CXK58257BTM-70LL-T6
IC106	8-759-940-45	s	IC S-8054HN-CB
IC109	8-759-182-95	s	IC HD151015T
IC110	8-759-196-96	s	IC TC7SH08FU-TE85R
IC111	8-759-082-57	s	IC TC7W04FU
IC112	8-759-252-59	s	IC MAX202CSE
IC113	8-759-082-61	s	IC TC4W53FU
IC114	8-759-082-61	s	IC TC4W53FU
L101	1-412-955-11	s	INDUCTOR 22uH
L102	1-412-943-11	s	INDUCTOR 2.2uH
L104	1-412-955-11	s	INDUCTOR 22uH
L105	1-412-955-11	s	INDUCTOR 22uH

(AT-110 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q101	8-729-402-19	s	TRANSISTOR XN6501
Q102	8-729-402-19	s	TRANSISTOR XN6501
R110	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R111	1-218-668-11	s	METAL 100 0.50% 1/16W
R112	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R113	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R114	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R115	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R116	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R118	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R121	1-218-740-11	s	METAL 100K 0.50% 1/16W
R122	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R125	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R126	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R131	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R132	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R134	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R135	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R136	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R137	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R138	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R139	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R140	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R141	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R142	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R143	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R144	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R145	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R146	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R147	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R148	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R149	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R150	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R151	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R152	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R153	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R154	1-218-668-11	s	METAL 100 0.50% 1/16W
R163	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R164	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R166	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
RB101	1-239-309-11	s	RESISTOR BLOCK, CHIP 100K
RB102	1-239-426-11	s	RESISTOR BLOCK, CHIP 2.2KX4
RB103	1-239-412-11	s	RESISTOR BLOCK, CHIP 100
RB104	1-239-428-11	s	NETWORK RESISTOR (CHIP) 3.3K
RB105	1-239-309-11	s	RESISTOR BLOCK, CHIP 100K
RB106	1-239-309-11	s	RESISTOR BLOCK, CHIP 100K
RB107	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB108	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
X1	1-760-273-11	s	VIBRATOR, CRYSTAL

BP-30 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-679-11	o	CONTACT, FEMALE
1pc	1-569-680-11	o	HOUSING, CONNECTOR 2P
1pc	1-663-024-11	o	PRINTED CIRCUIT BOARD, BP-30
BT701	1-550-414-31	s	HOLDER, BATTERY

CN-1194 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-102-A	o	MOUNTED CIRCUIT BOARD, CN-1194
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-679-11	o	CONTACT, FEMALE
C401	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C402	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C403	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C404	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C405	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C406	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C407	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C408	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C409	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C410	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
CN401	1-562-221-31	s	RECEPTACLE, CONNECTOR 12P
W401	1-956-517-11	o	HARNESS, SUB (CN1194)

CN-1195 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-118-A	o	MOUNTED CIRCUIT BOARD, CN-1195
C501	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C502	1-163-133-00	s	CERAMIC, CHIP 470PF 5% 50V
C503	1-126-219-11	s	ELECT 3.3uF 20% 63V
C504	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C505	1-126-219-11	s	ELECT 3.3uF 20% 63V
C506	1-126-219-11	s	ELECT 3.3uF 20% 63V
C507	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C508	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C509	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C510	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C513	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C514	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C515	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C516	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C517	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C518	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C519	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C520	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C521	1-163-275-11	s	CERAMIC 0.001uF 5% 50V
C529	1-128-528-11	s	ELECT 470uF 20% 25V
C530	1-107-877-11	s	ELECT 1000uF 20% 10V
C531	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C532	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
CN501	1-565-249-11	o	SOCKET, 20P
CN502	1-568-006-11	s	CONNECTOR, XLR 3P, FEMALE
CN503	1-506-491-11	s	CONNECTOR, 12P, MALE
CN506	1-691-550-11	s	PIN, CONNECTOR 3P
D501	8-719-800-76	s	DIODE 1SS226
D502	8-719-800-76	s	DIODE 1SS226
FB502	1-412-978-21	s	INDUCTOR 0.82uH
FB503	1-412-978-21	s	INDUCTOR 0.82uH
FB504	1-412-978-21	s	INDUCTOR 0.82uH
FB505	1-414-135-11	s	INDUCTOR CHIP 0uH
FB506	1-414-135-11	s	INDUCTOR CHIP 0uH
FB507	1-414-445-11	s	INDUCTOR CHIP 0uH
FB508	1-414-135-11	s	INDUCTOR CHIP 0uH
FL501	1-239-077-11	s	FILTER, EMI
IC501	8-759-700-09	s	IC NJM2043M-D
IC502	8-759-049-58	s	IC SN74HC04APW-E05
IC503	8-759-050-94	s	IC SN74HC165APW-E05
IC504	8-759-234-20	s	IC TC7S08F
L503	1-412-955-11	s	INDUCTOR 22uH
Q501	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q502	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q503	8-729-216-22	s	TRANSISTOR 2SA1162
R501	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R502	1-216-069-00	s	METAL, CHIP 6.8K 5% 1/10W
R503	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R504	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
R505	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
R506	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R507	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R508	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R509	1-216-295-91	s	METAL, CHIP 0 5% 1/10W

(CN-1195 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R510	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R513	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R514	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R515	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R516	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R517	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R518	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R520	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R521	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R522	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
R523	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
R524	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
R525	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R526	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R527	1-216-097-91	s	METAL 100K 5% 1/10W
R528	1-216-097-91	s	METAL 100K 5% 1/10W
R530	1-216-688-11	s	METAL, CHIP 36K 0.5% 1/10W
R531	1-216-688-11	s	METAL, CHIP 36K 0.5% 1/10W
R532	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R533	1-216-041-00	s	METAL, CHIP 470 5% 1/10W
R534	1-216-025-91	s	METAL 100 5% 1/10W
R536	1-216-097-91	s	METAL 100K 5% 1/10W
R537	1-216-097-91	s	METAL 100K 5% 1/10W
R538	1-216-097-91	s	METAL 100K 5% 1/10W
R539	1-216-097-91	s	METAL 100K 5% 1/10W
R540	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R541	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R542	1-208-806-11	s	METAL, CHIP 10K 0.50% 1/10W
S501	1-762-827-11	s	SWITCH, TOGGLE

CN-1196 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-101-A	o	MOUNTED CIRCUIT BOARD, CN-1196
	* CN-1410 BOARD is included.		[for UC, CE]
1pc	A-8311-155-A	o	MOUNTED CIRCUIT BOARD, CN-1196J
	* CN-1409(J) BOARD is included.		[For J]
3pcs	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-565-978-11	o	HOUSING, 6P
3pcs	1-569-679-11	o	CONTACT, FEMALE
1pc	1-569-680-11	o	HOUSING, CONNECTOR 2P
1pc	3-604-416-01	o	SHIELD FINGER(CN)
2pcs	7-621-770-87	s	SCREW +B 2.6X5
C602	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C603	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C604	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C605	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C606	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C608	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C609	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C610	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
C611	1-163-243-11	s	CERAMIC, CHIP 47PF 5% 50V
CN601	1-565-443-11	o	CONNECTOR, 10P FEMALE
CN602	1-562-382-31	s	CONNECTOR, BNC
CN603	1-561-320-41	s	DIN SOCKET 8P
FB601	1-414-445-11	s	INDUCTOR CHIP 0uH
FB602	1-414-445-11	s	INDUCTOR CHIP 0uH
FB603	1-414-445-11	s	INDUCTOR CHIP 0uH
FB604	1-414-445-11	s	INDUCTOR CHIP 0uH
FB605	1-414-445-11	s	INDUCTOR CHIP 0uH
FB606	1-414-445-11	s	INDUCTOR CHIP 0uH
FB607	1-414-445-11	s	INDUCTOR CHIP 0uH
FB608	1-414-445-11	s	INDUCTOR CHIP 0uH
FB609	1-414-445-11	s	INDUCTOR CHIP 0uH
FL601	1-239-077-11	s	FILTER, EMI
R601	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
W601	1-956-528-11	o	HARNESS, SUB (CN1196-1)
W602	1-956-519-11	o	HARNESS, SUB (CN1196-2)
W603	1-956-526-11	o	HARNESS, SUB (LCD)

CN-1294 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-134-A	o	MOUNTED CIRCUIT BOARD, CN-1294
C801	1-163-038-91	s	CERAMIC 0.1uF 25V
C802	1-163-038-91	s	CERAMIC 0.1uF 25V
C803	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C804	1-163-038-91	s	CERAMIC 0.1uF 25V
C805	1-163-038-91	s	CERAMIC 0.1uF 25V
C806	1-163-038-91	s	CERAMIC 0.1uF 25V
CN801	1-778-658-11	o	CONNECTOR, BOARD TO BOARD
CN802	1-573-120-11	s	CONNECTOR, MULTI 50P
CN803	1-778-659-11	o	PIN, CONNECTOR 3P
CN804	1-580-055-21	s	PIN, CONNECTOR 2P
FB801	1-543-775-11	s	FILTER, EMI
FL801	1-236-164-11	s	ENCAPSULATED COMPONENT
IC801	8-759-196-93	s	IC TC7SH00FU-TE85R
IC802	8-759-080-06	s	IC TC74VHC574FS(EL)
IC803	8-759-080-06	s	IC TC74VHC574FS(EL)
L801	1-412-963-11	s	INDUCTOR 100uH
R801	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R802	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
RB801	1-239-409-11	s	NETWORK, RESISTOR (CHIP TYPE)
RB802	1-239-409-11	s	NETWORK, RESISTOR (CHIP TYPE)
RB803	1-239-409-11	s	NETWORK, RESISTOR (CHIP TYPE)
RB804	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB805	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8

CN-1349 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-136-A	o	MOUNTED CIRCUIT BOARD, CN-1349
1pc	1-500-032-11	s	BEAD, FERRITE
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-618-11	o	HOUSING, CONNECTOR 3P
1pc	1-569-679-11	o	CONTACT, FEMALE
C801	1-163-009-11	s	CERAMIC, CHIP 0.001uF 10% 50V
C802	1-163-009-11	s	CERAMIC, CHIP 0.001uF 10% 50V
CN801	1-507-980-41	s	JACK
W801	1-956-518-11	o	HARNESS, SUB (REMOTE)

CN-1409(J) BOARD :For J

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-663-029-11	o	PRINTED CIRCUIT BOARD, CN-1409(J) [for J]
CN604	1-507-858-31	s	JACK, PIN 1P

CN-1410 BOARD :For UC,CE

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-663-030-11	o	PRINTED CIRCUIT BOARD, CN-1410 [for UC, CE]
CN604	1-562-382-31	s	CONNECTOR, BNC

DUS-28 BOARD :For J,UC

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-164-156-11	s	CERAMIC 0.1uF 25V
IC1	8-759-926-24	s	IC SN74HC164ANS
IC2	8-759-195-02	s	IC TC7S86F-TE85L
IC3	8-759-058-54	s	IC TC7S00FU(TE85R)
IC4	8-759-196-97	s	IC TC7SH32FU-TE85R
IC5	8-759-196-93	s	IC TC7SH00FU-TE85R
IC6	8-759-058-62	s	IC TC7S08FU(TE85R)

DUS-29 BOARD :For CE

Ref. No. or Q'ty	Part No.	SP	Description
C1	1-164-156-11	s	CERAMIC 0.1uF 25V
IC1	8-759-926-24	s	IC SN74HC164ANS
IC2	8-759-195-81	s	IC TC7S86FU
IC3	8-759-058-57	s	IC TC7S04FU-TE85L
IC4	8-759-196-97	s	IC TC7SH32FU-TE85R
IC5	8-759-196-93	s	IC TC7SH00FU-TE85R
IC6	8-759-049-60	s	IC SN74HC08APW-E05
R2	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R3	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R4	1-218-732-11	s	METAL 47K 0.50% 1/16W

ES-12/12(P) BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-127-A	o	MOUNTED CIRCUIT BOARD, ES-12 [for J,UC]
1pc	A-8311-141-A	o	MOUNTED CIRCUIT BOARD, ES-12(P) [for CE]
2pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C501	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C502	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C503	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C504	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C505	1-115-154-21	s	ELECT 10uF 20% 16V
C506	1-115-154-21	s	ELECT 10uF 20% 16V
C507	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C508	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C509	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C510	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C512	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C513	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V [for CE]
C514	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C515	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
C516	1-164-156-11	s	CERAMIC 0.1uF 25V
C517	1-164-156-11	s	CERAMIC 0.1uF 25V
C518	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C520	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C521	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C522	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C523	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C524	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C525	1-164-156-11	s	CERAMIC 0.1uF 25V
C526	1-115-154-21	s	ELECT 10uF 20% 16V
C527	1-126-393-11	s	ELECT 33uF 20% 10V
C528	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V [for J,UC]
C528	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V [for CE]
C529	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C530	1-162-922-11	s	CERAMIC, CHIP 39PF 5% 50V
C531	1-164-156-11	s	CERAMIC 0.1uF 25V
C532	1-164-156-11	s	CERAMIC 0.1uF 25V
C533	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C534	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C535	1-164-156-11	s	CERAMIC 0.1uF 25V
C536	1-164-156-11	s	CERAMIC 0.1uF 25V
C537	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C538	1-164-156-11	s	CERAMIC 0.1uF 25V
C539	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C540	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C541	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C542	1-164-156-11	s	CERAMIC 0.1uF 25V
C543	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C544	1-164-156-11	s	CERAMIC 0.1uF 25V
C545	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C546	1-164-156-11	s	CERAMIC 0.1uF 25V
C547	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C548	1-126-393-11	s	ELECT 33uF 20% 10V
C549	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C550	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C551	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C552	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C553	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V

(ES-12/12(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C554	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C555	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C556	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C557	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C558	1-104-914-11	s	TANTALUM 22uF 20% 16V
C559	1-164-156-11	s	CERAMIC 0.1uF 25V
C560	1-164-156-11	s	CERAMIC 0.1uF 25V
C561	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C562	1-107-689-21	s	TANTALUM 1uF 20% 35V
C563	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C564	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C565	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C566	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C567	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C568	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C569	1-164-156-11	s	CERAMIC 0.1uF 25V
C570	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C571	1-164-156-11	s	CERAMIC 0.1uF 25V
C573	1-164-156-11	s	CERAMIC 0.1uF 25V
C576	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C577	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V [for J,UC]
C577	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V [for CE]
C578	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V [for CE]
C579	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C580	1-164-156-11	s	CERAMIC 0.1uF 25V
C581	1-164-156-11	s	CERAMIC 0.1uF 25V
C582	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C583	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C584	1-113-981-11	s	TANTALUM 22uF 20% 20V
C585	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C586	1-164-156-11	s	CERAMIC 0.1uF 25V
C587	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C588	1-164-156-11	s	CERAMIC 0.1uF 25V
C589	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C590	1-164-156-11	s	CERAMIC 0.1uF 25V
C591	1-164-156-11	s	CERAMIC 0.1uF 25V
C592	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C593	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C594	1-164-156-11	s	CERAMIC 0.1uF 25V
C595	1-164-363-11	s	CERAMIC 560PF 5% 50V
C596	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C597	1-164-156-11	s	CERAMIC 0.1uF 25V
C598	1-164-156-11	s	CERAMIC 0.1uF 25V
C599	1-164-156-11	s	CERAMIC 0.1uF 25V
C600	1-164-156-11	s	CERAMIC 0.1uF 25V
C601	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V [for J,UC]
C601	1-162-918-11	s	CERAMIC, CHIP 18PF 5% 50V [for CE]
C602	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C603	1-164-156-11	s	CERAMIC 0.1uF 25V
C604	1-164-156-11	s	CERAMIC 0.1uF 25V
C605	1-164-156-11	s	CERAMIC 0.1uF 25V
C606	1-164-156-11	s	CERAMIC 0.1uF 25V
C607	1-164-156-11	s	CERAMIC 0.1uF 25V
C608	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C609	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C610	1-164-156-11	s	CERAMIC 0.1uF 25V
C611	1-164-156-11	s	CERAMIC 0.1uF 25V

(ES-12/12(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C612	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C613	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C614	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C615	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C616	1-164-156-11	s	CERAMIC 0.1uF 25V
C617	1-164-156-11	s	CERAMIC 0.1uF 25V
C618	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C619	1-164-156-11	s	CERAMIC 0.1uF 25V
C620	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C621	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C622	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C623	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C624	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C626	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C627	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C628	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C629	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C630	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C631	1-135-145-11	s	TANTALUM, CHIP 0.47uF 10% 35V
C632	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C633	1-126-393-11	s	ELECT 33uF 20% 10V
C634	1-164-156-11	s	CERAMIC 0.1uF 25V
C635	1-164-156-11	s	CERAMIC 0.1uF 25V
C636	1-126-391-11	s	ELECT, CHIP 47uF 20% 6.3V
C637	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V [for CE]
C638	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C639	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C641	1-104-913-11	s	TANTALUM, CHIP 10uF 20% 16V
C642	1-164-156-11	s	CERAMIC 0.1uF 25V
C643	1-126-393-11	s	ELECT 33uF 20% 10V
C644	1-162-909-11	s	CERAMIC 4PF 0.25PF 50V
C645	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C646	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C647	1-162-924-11	s	CERAMIC 56PF 5% 50V [for J,UC]
C647	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V [for CE]
C648	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
CN501	1-695-453-11	s	CONNECTOR, BOARD TO BOARD 50P
CP501	1-760-267-11	s	VCO, CRYSTAL 14.3818MHz [for J,UC]
CP501	1-760-269-11	s	OSCILLATOR, CRYSTAL 17.734475MHz [for CE]
D501	8-719-059-51	s	DIODE MA3J142E0LS0
D502	8-719-059-51	s	DIODE MA3J142E0LS0
D503	8-719-059-51	s	DIODE MA3J142E0LS0
D504	8-719-059-52	s	DIODE MA3J14300LS0
D505	8-719-029-63	s	DIODE RD4.3UH-T1
D506	8-719-029-63	s	DIODE RD4.3UH-T1
D507	8-719-029-63	s	DIODE RD4.3UH-T1
D508	8-719-029-57	s	DIODE RD2.4UH-T1
DL501	1-415-761-21	s	DELAY LINE, LC
DL502	1-415-760-21	s	DELAY LINE, LC
DL503	1-411-271-21	s	DELAY LINE
DL504	1-411-272-21	s	DELAY LINE
FL501	1-233-342-11	s	FILTER, TRAP
FL502	1-402-647-11	s	DELAY LINE (90°) (NTSC) [for J,UC]
FL502	1-402-646-21	s	DELAY LINE (90°) (PAL) [for CE]

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Ref. No. or Q'ty	Part No.	SP	Description
FL503	1-233-737-11	s	FILTER, BAND PASS [for J,UC]
FL503	1-233-738-11	s	FILTER, BAND PASS [for CE]
IC501	8-759-234-77	s	IC TC4S66F
IC502	8-759-234-77	s	IC TC4S66F
IC503	8-759-066-61	s	IC TC4053BFS
IC504	8-759-066-61	s	IC TC4053BFS
IC505	8-759-049-58	s	IC SN74HC04APW-E05
IC507	8-752-039-49	s	IC CXA1393AN
IC508	8-759-258-43	s	IC LT1253CS8-E2
IC509	8-759-101-12	s	IC UPC311G2
IC510	8-759-086-41	s	IC X24C02S-3.0
IC511	8-759-635-27	s	IC M62352GP
IC512	8-759-059-50	s	IC MB88351PFV
IC513	8-759-031-84	s	IC SC7S04F
IC514	8-759-082-61	s	IC TC4W53FU
IC515	8-752-335-47	s	IC CXD1216M
IC516	8-759-234-77	s	IC TC4S66F
IC517	8-759-510-71	s	IC BA10358F-E2
IC518	8-759-082-61	s	IC TC4W53FU
IC519	8-759-234-20	s	IC TC7S08F [for CE]
IC520	8-759-031-84	s	IC SC7S04F
IC521	8-759-049-96	s	IC SN74HC32APW-E20
IC522	8-759-234-20	s	IC TC7S08F
IC523	8-759-031-84	s	IC SC7S04F [for CE]
IC524	8-752-341-58	s	IC CXD1217Q
IC525	8-759-209-57	s	IC TC4S69F
IC526	8-759-209-57	s	IC TC4S69F [for CE]
IC527	8-759-209-57	s	IC TC4S69F
IC528	8-759-195-02	s	IC TC7S86F-TE85L
IC529	8-759-510-71	s	IC BA10358F-E2
IC530	8-759-902-88	s	IC SN74LS123NS
IC531	8-759-082-61	s	IC TC4W53FU
IC532	8-759-180-08	s	IC TC74HC4538AFS
IC533	8-759-112-66	s	IC UPC812G2
IC534	8-759-049-55	s	IC SN74HC00APW-E20
IC535	8-759-185-42	s	IC LM4040AIM3-2.5
IC536	8-759-076-06	s	IC TL064CPW
IC537	8-759-082-61	s	IC TC4W53FU
IC538	8-759-082-61	s	IC TC4W53FU
IC539	8-759-906-59	s	IC CX22017
IC540	8-759-195-02	s	IC TC7S86F-TE85L [for CE]
IC541	8-759-082-61	s	IC TC4W53FU
L501	1-412-955-11	s	INDUCTOR 22uH
L502	1-412-955-11	s	INDUCTOR 22uH
L503	1-412-955-11	s	INDUCTOR 22uH
L504	1-412-955-11	s	INDUCTOR 22uH
L505	1-412-957-11	s	INDUCTOR 33uH
L506	1-412-959-11	s	INDUCTOR 47uH
L507	1-412-955-11	s	INDUCTOR 22uH
L508	1-412-955-11	s	INDUCTOR 22uH
L509	1-412-955-11	s	INDUCTOR 22uH
L510	1-412-955-11	s	INDUCTOR 22uH
L511	1-410-656-11	s	INDUCTOR CHIP 150uH [for J,UC]
L511	1-410-393-11	s	INDUCTOR CHIP 100uH [for CE]
L512	1-412-959-11	s	INDUCTOR 47uH
L513	1-412-959-11	s	INDUCTOR 47uH
L514	1-412-959-11	s	INDUCTOR 47uH
L515	1-412-955-11	s	INDUCTOR 22uH

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Ref. No. or Q'ty	Part No.	SP	Description
L516	1-412-955-11	s	INDUCTOR 22uH
L517	1-412-959-11	s	INDUCTOR 47uH
L518	1-412-280-31	s	INDUCTOR 330uH
L519	1-412-280-31	s	INDUCTOR 330uH
L520	1-412-959-11	s	INDUCTOR 47uH
L521	1-412-959-11	s	INDUCTOR 47uH
L522	1-412-959-11	s	INDUCTOR 47uH
Q501	8-729-402-84	s	TRANSISTOR XN4601
Q502	8-729-117-32	s	TRANSISTOR 2SC4177
Q503	8-729-403-29	s	TRANSISTOR XN6435
Q504	8-729-402-19	s	TRANSISTOR XN6501
Q505	8-729-117-32	s	TRANSISTOR 2SC4177
Q506	8-729-403-29	s	TRANSISTOR XN6435
Q507	8-729-117-32	s	TRANSISTOR 2SC4177
Q508	8-729-403-32	s	TRANSISTOR XN6534
Q509	8-729-403-29	s	TRANSISTOR XN6435
Q510	8-729-402-84	s	TRANSISTOR XN4601
Q511	8-729-403-32	s	TRANSISTOR XN6534
Q512	8-729-117-32	s	TRANSISTOR 2SC4177
Q513	8-729-403-29	s	TRANSISTOR XN6435
Q514	8-729-403-29	s	TRANSISTOR XN6435
Q515	8-729-402-84	s	TRANSISTOR XN4601
Q516	8-729-402-84	s	TRANSISTOR XN4601
Q517	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q518	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q519	8-729-402-19	s	TRANSISTOR XN6501
Q520	8-729-403-29	s	TRANSISTOR XN6435
Q521	8-729-402-84	s	TRANSISTOR XN4601
Q522	8-729-141-53	s	TRANSISTOR 2SK94-X2X3X4
Q523	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q524	8-729-403-29	s	TRANSISTOR XN6435
Q525	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q526	8-729-402-84	s	TRANSISTOR XN4601
Q527	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q528	8-729-402-19	s	TRANSISTOR XN6501
Q529	8-729-122-63	s	TRANSISTOR 2SA1226
Q530	8-729-402-19	s	TRANSISTOR XN6501
Q531	8-729-402-78	s	TRANSISTOR XN6401
Q532	8-729-402-19	s	TRANSISTOR XN6501
Q533	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q534	8-729-402-19	s	TRANSISTOR XN6501
Q535	8-729-403-29	s	TRANSISTOR XN6435
Q536	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q537	8-729-402-84	s	TRANSISTOR XN4601 [for J,UC]
Q538	8-729-402-84	s	TRANSISTOR XN4601
Q539	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q540	8-729-402-84	s	TRANSISTOR XN4601
Q541	8-729-101-07	s	TRANSISTOR 2SB798
Q542	8-729-101-07	s	TRANSISTOR 2SB798
Q543	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q544	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q545	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q546	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q547	8-729-402-78	s	TRANSISTOR XN6401
Q548	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q549	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q550	8-729-402-78	s	TRANSISTOR XN6401
Q551	8-729-905-38	s	TRANSISTOR 2SC4081T106R

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Ref. No. or Q'ty	Part No.	SP	Description
Q552	8-729-402-84	s	TRANSISTOR XN4601
Q553	8-729-402-84	s	TRANSISTOR XN4601
Q554	8-729-402-19	s	TRANSISTOR XN6501
Q555	8-729-402-19	s	TRANSISTOR XN6501
R501	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R502	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R503	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R504	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R505	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R506	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R507	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R508	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R509	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R510	1-216-840-11	s	METAL, CHIP 39K 5% 1/16W
R511	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R512	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R513	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R514	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R515	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R516	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R517	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R518	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R519	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R520	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R521	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R522	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R523	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R524	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R525	1-218-724-11	s	METAL 22K 0.50% 1/16W
R526	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R527	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R529	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R530	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R531	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R532	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R533	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R534	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R535	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R536	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R537	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R538	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R539	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R540	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R541	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R542	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R543	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R544	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R545	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R546	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R547	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R548	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R549	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R550	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R551	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R552	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R553	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R554	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R555	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R556	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R557	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R558	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R559	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R560	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R561	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R562	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R563	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R564	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R565	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R566	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R567	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R568	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R570	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R571	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R572	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R573	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R574	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R575	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R576	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R577	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R578	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R581	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R582	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R583	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R584	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R588	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R589	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R590	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R591	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R592	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R592	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R593	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R594	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R595	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R596	1-218-848-11	s	METAL, CHIP 1.1K 0.50% 1/16W
R597	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R598	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R599	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R600	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R601	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R602	1-218-676-11	s	METAL 220 0.50% 1/16W
R603	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R604	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R605	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R606	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R607	1-216-848-11	s	METAL, CHIP 180K 5% 1/16W
R608	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R609	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R610	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R611	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R612	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R613	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R614	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R615	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R616	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R617	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R618	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R619	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R620	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R621	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R622	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R623	1-218-699-11	s	METAL, CHIP 2K 0.50% 1/16W
R624	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R625	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R626	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R627	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R628	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R629	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R630	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R631	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R632	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R633	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R634	1-218-856-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R635	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R636	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R637	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R639	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R640	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R641	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R642	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R643	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R644	1-216-794-11	s	METAL, CHIP 5.6 5% 1/16W
R645	1-216-794-11	s	METAL, CHIP 5.6 5% 1/16W
R646	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R647	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R648	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R649	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R650	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R651	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R652	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R653	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R654	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R655	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R656	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R657	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R658	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R659	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R660	1-216-836-11	s	METAL, CHIP 18K 5% 1/16W
R661	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R662	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R663	1-216-815-11	s	METAL, CHIP 330 5% 1/16W
R664	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R665	1-216-848-11	s	METAL, CHIP 180K 5% 1/16W
R666	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R667	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W [for J,UC]
R667	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W [for CE]
R668	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R669	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R670	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R671	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R672	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for J,UC]
R673	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R674	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for CE]
R675	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R676	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R677	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R678	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R679	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R680	1-218-883-11	s	METAL 33K 0.50% 1/16W
R681	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R682	1-218-883-11	s	METAL 33K 0.50% 1/16W [for J,UC]
R683	1-218-724-11	s	METAL 22K 0.50% 1/16W [for J,UC]
R684	1-218-724-11	s	METAL 22K 0.50% 1/16W [for J,UC]
R685	1-218-699-11	s	METAL, CHIP 2K 0.50% 1/16W
R686	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W [for CE]
R687	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for CE]
R688	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W [for CE]
R689	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W [for J,UC]
R690	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W [for J,UC]
R691	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W [for J,UC]
R692	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R693	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for CE]
R694	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R696	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R699	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for J,UC]
R700	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for J,UC]
R701	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for CE]
R702	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R703	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for J,UC]
R704	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R705	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R706	1-216-864-11	s	METAL, CHIP 0 5% 1/16W [for CE]
R707	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R708	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R709	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R710	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R711	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W [for CE]
R712	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R713	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R714	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R715	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R716	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R717	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R718	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R719	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R720	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R721	1-218-727-11	s	METAL 30K 0.50% 1/16W
R722	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R723	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R724	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R725	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R726	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R728	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R729	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R730	1-218-716-11	s	METAL 10K 0.50% 1/16W
R731	1-218-883-11	s	METAL 33K 0.50% 1/16W
R732	1-218-724-11	s	METAL 22K 0.50% 1/16W
R733	1-218-716-11	s	METAL 10K 0.50% 1/16W
R734	1-218-883-11	s	METAL 33K 0.50% 1/16W
R735	1-218-724-11	s	METAL 22K 0.50% 1/16W
R736	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R737	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R738	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R739	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R741	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R742	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R743	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R744	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R745	1-218-868-11	s	METAL, CHIP 7.5K 0.50% 1/16W
R746	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R747	1-216-835-11	s	METAL, CHIP 15K 5% 1/16W
R748	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R749	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R750	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R751	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R752	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R753	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R754	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R755	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R756	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R757	1-218-889-11	s	METAL, CHIP 56K 0.50% 1/16W
R758	1-218-724-11	s	METAL 22K 0.50% 1/16W
R759	1-218-883-11	s	METAL 33K 0.50% 1/16W
R760	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R761	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R762	1-218-883-11	s	METAL 33K 0.50% 1/16W
R763	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R764	1-218-729-11	s	METAL 36K 0.50% 1/16W
R765	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R766	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R767	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R768	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R769	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R770	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R771	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R772	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R773	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R774	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R775	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R776	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R777	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R778	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R779	1-218-716-11	s	METAL 10K 0.50% 1/16W
R780	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R781	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R782	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R783	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R784	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R785	1-218-883-11	s	METAL 33K 0.50% 1/16W
R786	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R787	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R788	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R789	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R790	1-218-716-11	s	METAL 10K 0.50% 1/16W
R791	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R792	1-218-708-11	s	METAL 4.7K 0.50% 1/16W [for J,UC]
R792	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W [for CE]
R793	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R794	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R795	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R796	1-218-883-11	s	METAL 33K 0.50% 1/16W

(ES-12/12(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R797	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R798	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R799	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W [for J,UC]
R800	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W [for CE]
R801	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R802	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R803	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R804	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R805	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R806	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R807	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R808	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W [for J,UC]
R808	1-216-831-11	s	METAL, CHIP 6.8K 5% 1/16W [for CE]
R809	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W [for J,UC]
R809	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W [for CE]
R810	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R811	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R812	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R813	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W [for J,UC]
R813	1-218-698-11	s	METAL 1.8K 0.50% 1/16W [for CE]
R814	1-218-720-11	s	METAL 15K 0.50% 1/16W
R815	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R816	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R817	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R819	1-216-828-11	s	METAL, CHIP 3.9K 5% 1/16W
R820	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R821	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R822	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R823	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R824	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R826	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R828	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R829	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R830	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R831	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
RB501	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB502	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RV501	1-241-260-11	s	RES, ADJ, METAL 500
RV502	1-241-261-41	s	RES, ADJ, METAL 1K
RV503	1-241-261-41	s	RES, ADJ, METAL 1K
RV504	1-241-261-41	s	RES, ADJ, METAL 1K
RV505	1-241-260-11	s	RES, ADJ, METAL 500

IF-532 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-125-A	o	MOUNTED CIRCUIT BOARD, IF-532
3pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C501	1-107-689-21	s	TANTALUM 1uF 20% 35V
C502	1-164-156-11	s	CERAMIC 0.1uF 25V
C503	1-164-156-11	s	CERAMIC 0.1uF 25V
C504	1-164-156-11	s	CERAMIC 0.1uF 25V
C506	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C507	1-113-642-11	s	TANTALUM 47uF 20% 10V
C508	1-164-156-11	s	CERAMIC 0.1uF 25V
C509	1-164-156-11	s	CERAMIC 0.1uF 25V
C510	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C511	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C512	1-113-642-11	s	TANTALUM 47uF 20% 10V
C513	1-113-642-11	s	TANTALUM 47uF 20% 10V
C514	1-164-156-11	s	CERAMIC 0.1uF 25V
C515	1-164-156-11	s	CERAMIC 0.1uF 25V
C516	1-164-156-11	s	CERAMIC 0.1uF 25V
C517	1-164-156-11	s	CERAMIC 0.1uF 25V
C518	1-164-156-11	s	CERAMIC 0.1uF 25V
C519	1-164-156-11	s	CERAMIC 0.1uF 25V
C520	1-164-156-11	s	CERAMIC 0.1uF 25V
C521	1-164-156-11	s	CERAMIC 0.1uF 25V
C522	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C523	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C524	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C525	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C526	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C527	1-162-913-11	s	CERAMIC 8PF 0.5PF 50V
C528	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C529	1-164-156-11	s	CERAMIC 0.1uF 25V
C530	1-164-156-11	s	CERAMIC 0.1uF 25V
C531	1-162-913-11	s	CERAMIC 8PF 0.5PF 50V
C532	1-162-913-11	s	CERAMIC 8PF 0.5PF 50V
C533	1-164-156-11	s	CERAMIC 0.1uF 25V
C534	1-164-156-11	s	CERAMIC 0.1uF 25V
C535	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C536	1-162-913-11	s	CERAMIC 8PF 0.5PF 50V
C537	1-164-156-11	s	CERAMIC 0.1uF 25V
C538	1-164-156-11	s	CERAMIC 0.1uF 25V
C539	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C540	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C541	1-164-156-11	s	CERAMIC 0.1uF 25V
C542	1-164-156-11	s	CERAMIC 0.1uF 25V
C544	1-104-608-11	s	ELECT 33uF 20% 6.3V
C545	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C546	1-164-156-11	s	CERAMIC 0.1uF 25V
C547	1-164-156-11	s	CERAMIC 0.1uF 25V
C548	1-164-156-11	s	CERAMIC 0.1uF 25V
C549	1-164-156-11	s	CERAMIC 0.1uF 25V
C550	1-164-156-11	s	CERAMIC 0.1uF 25V
C551	1-164-156-11	s	CERAMIC 0.1uF 25V
C552	1-164-156-11	s	CERAMIC 0.1uF 25V
C553	1-164-156-11	s	CERAMIC 0.1uF 25V
C554	1-164-156-11	s	CERAMIC 0.1uF 25V
C556	1-104-608-11	s	ELECT 33uF 20% 6.3V
C557	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C558	1-164-156-11	s	CERAMIC 0.1uF 25V
C559	1-164-156-11	s	CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C560	1-164-156-11	s	CERAMIC 0.1uF 25V
C561	1-164-156-11	s	CERAMIC 0.1uF 25V
C562	1-164-156-11	s	CERAMIC 0.1uF 25V
C565	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C566	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C568	1-104-608-11	s	ELECT 33uF 20% 6.3V
C569	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C570	1-164-156-11	s	CERAMIC 0.1uF 25V
C571	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C572	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C573	1-164-156-11	s	CERAMIC 0.1uF 25V
C574	1-164-156-11	s	CERAMIC 0.1uF 25V
C575	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C576	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C577	1-162-911-11	s	CERAMIC, CHIP 6PF 50V
C578	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V
C579	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C580	1-164-156-11	s	CERAMIC 0.1uF 25V
C581	1-164-156-11	s	CERAMIC 0.1uF 25V
C582	1-162-968-11	s	CERAMIC, CHIP 0.0047uF 10% 50V
C583	1-164-156-11	s	CERAMIC 0.1uF 25V
C584	1-162-966-11	s	CERAMIC, CHIP 0.0022uF 10% 50V
C585	1-164-156-11	s	CERAMIC 0.1uF 25V
C586	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C587	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C588	1-164-156-11	s	CERAMIC 0.1uF 25V
C589	1-164-156-11	s	CERAMIC 0.1uF 25V
C590	1-164-156-11	s	CERAMIC 0.1uF 25V
C591	1-164-156-11	s	CERAMIC 0.1uF 25V
C592	1-164-156-11	s	CERAMIC 0.1uF 25V
C593	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C594	1-164-156-11	s	CERAMIC 0.1uF 25V
C595	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C596	1-164-156-11	s	CERAMIC 0.1uF 25V
C597	1-164-156-11	s	CERAMIC 0.1uF 25V
C598	1-164-156-11	s	CERAMIC 0.1uF 25V
C599	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C600	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C601	1-164-156-11	s	CERAMIC 0.1uF 25V
C602	1-164-156-11	s	CERAMIC 0.1uF 25V
C603	1-164-156-11	s	CERAMIC 0.1uF 25V
C604	1-164-156-11	s	CERAMIC 0.1uF 25V
C605	1-164-156-11	s	CERAMIC 0.1uF 25V
C611	1-164-156-11	s	CERAMIC 0.1uF 25V
C612	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C613	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C614	1-164-156-11	s	CERAMIC 0.1uF 25V
C615	1-164-156-11	s	CERAMIC 0.1uF 25V
C616	1-164-156-11	s	CERAMIC 0.1uF 25V
C617	1-107-685-11	s	TANTALUM 15uF 20% 6.3V
C618	1-164-156-11	s	CERAMIC 0.1uF 25V
C619	1-164-156-11	s	CERAMIC 0.1uF 25V
C620	1-164-156-11	s	CERAMIC 0.1uF 25V
C621	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C622	1-164-156-11	s	CERAMIC 0.1uF 25V
C626	1-164-156-11	s	CERAMIC 0.1uF 25V
C627	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C629	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C630	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V

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Ref. No. or Q'ty	Part No.	SP	Description
C631	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C632	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C633	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C634	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C635	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C636	1-164-156-11	s	CERAMIC 0.1uF 25V
C637	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C638	1-164-156-11	s	CERAMIC 0.1uF 25V
C639	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C640	1-164-156-11	s	CERAMIC 0.1uF 25V
C641	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C642	1-164-156-11	s	CERAMIC 0.1uF 25V
C643	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C644	1-164-156-11	s	CERAMIC 0.1uF 25V
C645	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C646	1-164-156-11	s	CERAMIC 0.1uF 25V
C648	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C651	1-164-156-11	s	CERAMIC 0.1uF 25V
C652	1-164-156-11	s	CERAMIC 0.1uF 25V
C653	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C654	1-164-156-11	s	CERAMIC 0.1uF 25V
C655	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C656	1-164-156-11	s	CERAMIC 0.1uF 25V
C657	1-164-156-11	s	CERAMIC 0.1uF 25V
C658	1-164-156-11	s	CERAMIC 0.1uF 25V
C659	1-164-156-11	s	CERAMIC 0.1uF 25V
C660	1-164-156-11	s	CERAMIC 0.1uF 25V
C661	1-164-156-11	s	CERAMIC 0.1uF 25V
C663	1-164-156-11	s	CERAMIC 0.1uF 25V
C664	1-164-156-11	s	CERAMIC 0.1uF 25V
C665	1-164-156-11	s	CERAMIC 0.1uF 25V
C666	1-164-156-11	s	CERAMIC 0.1uF 25V
C668	1-164-156-11	s	CERAMIC 0.1uF 25V
C669	1-164-156-11	s	CERAMIC 0.1uF 25V
C670	1-164-156-11	s	CERAMIC 0.1uF 25V
C672	1-164-156-11	s	CERAMIC 0.1uF 25V
C673	1-164-156-11	s	CERAMIC 0.1uF 25V
C674	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
CP501	1-760-275-11	s	OSCILLATOR, CRYSTAL 27MHz
D501	8-719-029-63	s	DIODE RD4.3UH-T1
D502	8-719-029-63	s	DIODE RD4.3UH-T1
D503	8-719-029-63	s	DIODE RD4.3UH-T1
D506	8-719-421-69	s	DIODE MA133
D507	8-719-421-67	s	DIODE MA132WK
FB501	1-414-445-11	s	INDUCTOR CHIP 0uH
FB502	1-414-445-11	s	INDUCTOR CHIP 0uH
FB503	1-414-445-11	s	INDUCTOR CHIP 0uH
FB504	1-414-445-11	s	INDUCTOR CHIP 0uH
FL501	1-233-753-21	s	FILTER, LOW PASS
FL502	1-233-753-21	s	FILTER, LOW PASS
FL503	1-233-753-21	s	FILTER, LOW PASS
IC501	8-759-185-42	s	IC LM4040AIM3-2.5
IC502	8-759-076-06	s	IC TL064CPW
IC503	8-759-086-41	s	IC X24C02S-3.0
IC504	8-759-635-27	s	IC M62352GP
IC505	8-759-173-16	s	IC TL062CPW
IC506	8-759-066-59	s	IC TC74HC4053AFS

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Ref. No. or Q'ty	Part No.	SP	Description
IC507	8-759-066-61	s	IC TC4053BFS
IC508	8-759-262-06	s	IC TC4052BFS(ELQ)
IC509	8-759-066-61	s	IC TC4053BFS
IC510	8-759-031-84	s	IC SC7S04F
IC511	8-759-031-84	s	IC SC7S04F
IC512	8-759-234-20	s	IC TC7S08F
IC513	8-759-066-61	s	IC TC4053BFS
IC514	8-759-180-08	s	IC TC74HC4538AFS
IC515	8-759-079-46	s	IC TC74VHC00FS(EL)
IC516	8-752-363-60	s	IC CXD2307R-T4
IC517	8-759-079-49	s	IC TC74VHC04FS(EL)
IC519	8-759-079-49	s	IC TC74VHC04FS(EL)
IC521	8-759-050-53	s	IC SN74HCT08APW-E20
IC522	8-759-184-64	s	IC TC4W66FU
IC523	8-759-173-16	s	IC TL062CPW
IC524	8-759-031-84	s	IC SC7S04F
IC527	8-759-066-61	s	IC TC4053BFS
IC529	8-759-079-49	s	IC TC74VHC04FS(EL)
IC530	8-759-196-96	s	IC TC7SH08FU-TE85R
IC531	8-759-079-61	s	IC TC74VHC74FS(EL)
JR501	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR502	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR503	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR504	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
JR506	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
L501	1-412-962-11	s	INDUCTOR 82uH
L502	1-410-656-11	s	INDUCTOR CHIP 150uH
L503	1-412-955-11	s	INDUCTOR 22uH
L504	1-412-955-11	s	INDUCTOR 22uH
L505	1-424-643-11	s	COIL, CHOKE 10UH
L506	1-412-955-11	s	INDUCTOR 22uH
L507	1-412-955-11	s	INDUCTOR 22uH
L508	1-412-955-11	s	INDUCTOR 22uH
L509	1-412-955-11	s	INDUCTOR 22uH
Q501	8-729-101-07	s	TRANSISTOR 2SB798
Q502	8-729-101-07	s	TRANSISTOR 2SB798
Q503	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q505	8-729-402-84	s	TRANSISTOR XN4601
Q506	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q507	8-729-101-07	s	TRANSISTOR 2SB798
Q508	8-729-402-19	s	TRANSISTOR XN6501
Q509	8-729-122-63	s	TRANSISTOR 2SA1226
Q510	8-729-402-84	s	TRANSISTOR XN4601
Q511	8-729-402-19	s	TRANSISTOR XN6501
Q512	8-729-122-63	s	TRANSISTOR 2SA1226
Q513	8-729-402-84	s	TRANSISTOR XN4601
Q514	8-729-402-19	s	TRANSISTOR XN6501
Q515	8-729-122-63	s	TRANSISTOR 2SA1226
Q516	8-729-402-84	s	TRANSISTOR XN4601
Q517	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q518	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q519	8-729-402-84	s	TRANSISTOR XN4601
Q520	8-729-402-78	s	TRANSISTOR XN6401
Q521	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q522	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q523	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q524	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q525	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q526	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR

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Ref. No. or Q'ty	Part No.	SP	Description
Q527	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q528	8-729-402-84	s	TRANSISTOR XN4601
Q529	8-729-402-78	s	TRANSISTOR XN6401
Q530	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q531	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q532	8-729-402-19	s	TRANSISTOR XN6501
Q533	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q534	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q535	8-729-402-78	s	TRANSISTOR XN6401
Q536	8-729-403-32	s	TRANSISTOR XN6534
Q537	8-729-402-78	s	TRANSISTOR XN6401
Q538	8-729-402-84	s	TRANSISTOR XN4601
Q539	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q540	8-729-402-84	s	TRANSISTOR XN4601
Q541	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q542	8-729-402-84	s	TRANSISTOR XN4601
Q543	8-729-402-84	s	TRANSISTOR XN4601
Q544	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q545	8-729-402-19	s	TRANSISTOR XN6501
Q546	8-729-402-78	s	TRANSISTOR XN6401
Q547	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q548	8-729-402-84	s	TRANSISTOR XN4601
R501	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R502	1-216-838-11	s	METAL, CHIP 27K 5% 1/16W
R503	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R504	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R505	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R506	1-218-883-11	s	METAL 33K 0.50% 1/16W
R507	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R508	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R509	1-218-883-11	s	METAL 33K 0.50% 1/16W
R510	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R511	1-218-729-11	s	METAL 36K 0.50% 1/16W
R514	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R515	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R516	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R517	1-218-883-11	s	METAL 33K 0.50% 1/16W
R518	1-218-724-11	s	METAL 22K 0.50% 1/16W
R519	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R520	1-218-883-11	s	METAL 33K 0.50% 1/16W
R521	1-218-724-11	s	METAL 22K 0.50% 1/16W
R522	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R523	1-218-883-11	s	METAL 33K 0.50% 1/16W
R524	1-218-724-11	s	METAL 22K 0.50% 1/16W
R525	1-218-716-11	s	METAL 10K 0.50% 1/16W
R526	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R527	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R528	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R529	1-218-886-11	s	METAL, CHIP 43K 0.50% 1/16W
R530	1-218-883-11	s	METAL 33K 0.50% 1/16W
R531	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R532	1-218-732-11	s	METAL 47K 0.50% 1/16W
R533	1-218-738-11	s	METAL 82K 0.50% 1/16W
R534	1-218-732-11	s	METAL 47K 0.50% 1/16W
R535	1-218-738-11	s	METAL 82K 0.50% 1/16W
R536	1-218-732-11	s	METAL 47K 0.50% 1/16W
R537	1-218-738-11	s	METAL 82K 0.50% 1/16W
R538	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R539	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R540	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R541	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R542	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R543	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R544	1-218-672-11	s	METAL 150 0.50% 1/16W
R545	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R546	1-211-991-11	s	METAL, CHIP 82 0.50% 1/16W
R547	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R548	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R549	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R550	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R551	1-218-660-91	s	METAL 47 0.50% 1/16W
R552	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R553	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R554	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R555	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R556	1-218-668-11	s	METAL 100 0.50% 1/16W
R557	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R558	1-218-833-11	s	METAL, CHIP 270 0.50% 1/16W
R559	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R560	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R561	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R562	1-218-856-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R563	1-218-680-11	s	METAL 330 0.50% 1/16W
R564	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R565	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R566	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R567	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R568	1-218-672-11	s	METAL 150 0.50% 1/16W
R569	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R570	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R571	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R572	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R573	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R574	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R575	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R576	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R577	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R578	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R579	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R580	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R581	1-218-676-11	s	METAL 220 0.50% 1/16W
R582	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R583	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R584	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R585	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R586	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R587	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R588	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R589	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R590	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R591	1-218-846-11	s	METAL, CHIP 910 0.50% 1/16W
R592	1-218-648-11	s	METAL 15 0.50% 1/16W
R593	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R594	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R595	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R596	1-211-987-11	s	METAL, CHIP 56 0.50% 1/16W
R597	1-216-809-11	s	METAL, CHIP 100 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R598	1-218-828-11	s	METAL 160 0.50% 1/16W
R599	1-218-648-11	s	METAL 15 0.50% 1/16W
R600	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R601	1-218-840-11	s	METAL, CHIP 510 0.50% 1/16W
R602	1-218-648-11	s	METAL 15 0.50% 1/16W
R603	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R604	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R605	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R606	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R607	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R608	1-218-664-11	s	METAL 68 0.50% 1/16W
R609	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R610	1-218-664-11	s	METAL 68 0.50% 1/16W
R611	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R612	1-218-664-11	s	METAL 68 0.50% 1/16W
R613	1-218-676-11	s	METAL 220 0.50% 1/16W
R614	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R615	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R616	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R617	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R618	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R619	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R620	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R621	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R622	1-211-990-11	s	METAL, CHIP 75 0.50% 1/16W
R623	1-218-846-11	s	METAL, CHIP 910 0.50% 1/16W
R624	1-218-648-11	s	METAL 15 0.50% 1/16W
R625	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R626	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R627	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R628	1-211-987-11	s	METAL, CHIP 56 0.50% 1/16W
R629	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R630	1-218-828-11	s	METAL 160 0.50% 1/16W
R631	1-218-648-11	s	METAL 15 0.50% 1/16W
R632	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R633	1-218-840-11	s	METAL, CHIP 510 0.50% 1/16W
R634	1-218-648-11	s	METAL 15 0.50% 1/16W
R635	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R636	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R637	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R638	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R639	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R640	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R641	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R642	1-218-676-11	s	METAL 220 0.50% 1/16W
R643	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R644	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R645	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R646	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R647	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R648	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R649	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R650	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R651	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R652	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R653	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R654	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R655	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R656	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W

(IF-532 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R657	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R658	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R659	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R660	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R661	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R662	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R663	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R664	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R665	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R666	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R667	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R668	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R669	1-211-987-11	s	METAL, CHIP 56 0.50% 1/16W
R670	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R671	1-218-846-11	s	METAL, CHIP 910 0.50% 1/16W
R672	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R673	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R674	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R675	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R676	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R677	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R678	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R679	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R680	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R681	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R682	1-218-833-11	s	METAL, CHIP 270 0.50% 1/16W
R683	1-211-974-11	s	METAL 16 0.50% 1/16W
R684	1-218-679-91	s	METAL, CHIP 300 0.50% 1/16W
R685	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R686	1-218-688-11	s	METAL 680 0.50% 1/16W
R687	1-218-651-11	s	METAL 20 0.50% 1/16W
R688	1-218-688-11	s	METAL 680 0.50% 1/16W
R689	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R690	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R691	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R692	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R693	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R694	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R695	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R696	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R697	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R698	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R699	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R700	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R701	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R702	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R703	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R704	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R705	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R706	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R707	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R709	1-218-676-11	s	METAL 220 0.50% 1/16W
R710	1-218-676-11	s	METAL 220 0.50% 1/16W
R711	1-218-676-11	s	METAL 220 0.50% 1/16W
R712	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R713	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R714	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R715	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R716	1-216-809-11	s	METAL, CHIP 100 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R717	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R720	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R721	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R722	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R723	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R724	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R725	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R726	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R727	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R728	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R729	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R730	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R731	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R732	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R734	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R738	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R739	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R740	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R741	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R745	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R746	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R747	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R748	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R749	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R750	1-218-844-11	s	METAL, CHIP 750 0.50% 1/16W
R751	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R754	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R755	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R756	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R757	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R758	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R759	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R760	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R762	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R763	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R764	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R766	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R767	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R768	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R769	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R770	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R772	1-215-397-00	s	METAL 100 1% 1/6W
RB501	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB502	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB503	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB504	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB505	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB506	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB508	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB509	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB510	1-236-908-11	s	RESISTOR, NETWORK, CHIP 10k
RB511	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB512	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB513	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB514	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470

MB-629 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-129-A	o	MOUNTED CIRCUIT BOARD, MB-629
11pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C2	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C3	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C5	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C6	1-126-393-11	s	ELECT 33uF 20% 10V
C9	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C18	1-164-156-11	s	CERAMIC 0.1uF 25V
C19	1-164-156-11	s	CERAMIC 0.1uF 25V
C26	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C27	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C30	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C31	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C35	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C36	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C37	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C38	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C40	1-164-156-11	s	CERAMIC 0.1uF 25V
C41	1-164-156-11	s	CERAMIC 0.1uF 25V
C42	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C44	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C45	1-164-156-11	s	CERAMIC 0.1uF 25V
C46	1-164-156-11	s	CERAMIC 0.1uF 25V
C47	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C49	1-164-156-11	s	CERAMIC 0.1uF 25V
C51	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C52	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C53	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C54	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C59	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C60	1-115-339-11	s	CERAMIC 0.1uF 10% 50V
C103	1-126-393-11	s	ELECT 33uF 20% 10V
C104	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C105	1-126-393-11	s	ELECT 33uF 20% 10V
C106	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C107	1-164-156-11	s	CERAMIC 0.1uF 25V
C108	1-164-156-11	s	CERAMIC 0.1uF 25V
C109	1-164-156-11	s	CERAMIC 0.1uF 25V
C110	1-164-156-11	s	CERAMIC 0.1uF 25V
C111	1-164-156-11	s	CERAMIC 0.1uF 25V
C201	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C202	1-113-500-11	s	TANTALUM 100uF 20% 10V
C203	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C204	1-104-551-11	s	FILM 0.01uF 5% 16V
C205	1-104-551-11	s	FILM 0.01uF 5% 16V
C206	1-164-156-11	s	CERAMIC 0.1uF 25V
C207	1-164-156-11	s	CERAMIC 0.1uF 25V
C209	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C210	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C211	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C212	1-164-156-11	s	CERAMIC 0.1uF 25V
C213	1-164-156-11	s	CERAMIC 0.1uF 25V
C214	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C215	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C216	1-164-156-11	s	CERAMIC 0.1uF 25V
C217	1-164-156-11	s	CERAMIC 0.1uF 25V
C218	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C219	1-115-154-21	s	ELECT 10uF 20% 16V

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Ref. No. or Q'ty	Part No.	SP	Description
C220	1-115-154-21	s	ELECT 10uF 20% 16V
C221	1-115-154-21	s	ELECT 10uF 20% 16V
C222	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C223	1-113-500-11	s	TANTALUM 100uF 20% 10V
CN1	1-770-454-21	o	CONNECTOR, BOARD TO BOARD 70P
CN2	1-573-806-21	s	PIN, CONNECTOR (1.5MM) (SMD)6P
CN103	1-569-035-11	o	CONNECTOR, FPC (ZIF) 30P
CN105	1-695-320-51	o	CONNECTOR (1.5MM)(SMD) 2P MALE
CN106	1-695-320-31	o	CONNECTOR (1.5MM)(SMD) 2P MALE
CN107	1-695-320-71	o	PIN, CONNECTOR (1.5MM) 2P
CN108	1-770-454-21	o	CONNECTOR, BOARD TO BOARD 70P
CN111	1-691-845-11	o	CONNECTOR (SQUARE TYPE) 50P
CN112	1-569-531-11	s	HOUSING, CONNECTOR 20P
CN113	1-569-531-11	s	HOUSING, CONNECTOR 20P
CN114	1-569-531-11	s	HOUSING, CONNECTOR 20P
CN116	1-778-656-11	o	CONNECTOR, BOARD TO BOARD 24P
CN117	1-778-655-11	o	PIN, CONNECTOR 2P
CN118	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN119	1-573-806-21	s	PIN, CONNECTOR (1.5MM) (SMD)6P
CN120	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
CN121	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN122	1-691-551-11	s	PIN, CONNECTOR 8P
CN123	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
CV1	1-141-368-11	s	CAP, CHIP TRIMMER
D1	8-719-800-76	s	DIODE 1SS226
D2	8-719-027-95	s	DIODE HSM88WK
D3	8-719-800-76	s	DIODE 1SS226
D5	8-719-974-76	s	DIODE HSM107S
D6	8-719-421-69	s	DIODE MA133
D7	8-719-421-69	s	DIODE MA133
D8	8-719-421-69	s	DIODE MA133
D9	8-719-421-69	s	DIODE MA133
D10	8-719-421-69	s	DIODE MA133
FB102	1-414-445-11	s	INDUCTOR CHIP 0uH
FB103	1-414-445-11	s	INDUCTOR CHIP 0uH
FB104	1-414-445-11	s	INDUCTOR CHIP 0uH
FB105	1-414-445-11	s	INDUCTOR CHIP 0uH
FB106	1-414-445-11	s	INDUCTOR CHIP 0uH
FB107	1-414-445-11	s	INDUCTOR CHIP 0uH
FB109	1-414-445-11	s	INDUCTOR CHIP 0uH
FB110	1-414-445-11	s	INDUCTOR CHIP 0uH
FB114	1-414-445-11	s	INDUCTOR CHIP 0uH
FB115	1-414-445-11	s	INDUCTOR CHIP 0uH
FB116	1-414-445-11	s	INDUCTOR CHIP 0uH
FB117	1-414-445-11	s	INDUCTOR CHIP 0uH
FB118	1-414-445-11	s	INDUCTOR CHIP 0uH
FB119	1-414-445-11	s	INDUCTOR CHIP 0uH
FB120	1-414-445-11	s	INDUCTOR CHIP 0uH
FB121	1-414-445-11	s	INDUCTOR CHIP 0uH
FB122	1-414-445-11	s	INDUCTOR CHIP 0uH
FB123	1-414-445-11	s	INDUCTOR CHIP 0uH
FB124	1-414-445-11	s	INDUCTOR CHIP 0uH
IC1	8-759-234-20	s	IC TC7S08F
IC2	8-759-234-20	s	IC TC7S08F
IC3	8-759-050-94	s	IC SN74HC165APW-E05
IC6	8-759-049-76	s	IC SN74HC244APW-E05
IC9	8-759-399-63	s	IC X24325S

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Ref. No. or Q'ty	Part No.	SP	Description
IC10	8-759-268-32	s	IC SN74HC595ADB-E05
IC11	8-752-381-56	s	IC CXD1095AR
IC12	8-759-065-20	s	IC RTC-4553B
IC13	8-759-430-61	s	IC UPD6453GT-658
IC15	8-759-338-95	s	IC NJM2903V(TE2)
IC16	8-759-076-06	s	IC TL064CPW
IC17	8-759-278-11	s	IC TC4051BFS(EL)
IC18	8-759-173-16	s	IC TL062CPW
IC21	8-759-082-57	s	IC TC7W04FU
IC22	8-759-234-20	s	IC TC7S08F
IC102	8-759-173-16	s	IC TL062CPW
IC201	8-759-031-84	s	IC SC7S04F
IC202	8-759-173-16	s	IC TL062CPW
IC203	8-759-700-09	s	IC NJM2043M-D
IC204	8-759-262-06	s	IC TC4052BFS(ELQ)
IC205	8-759-700-09	s	IC NJM2043M-D
L1	1-412-955-11	s	INDUCTOR 22uH
L2	1-412-955-11	s	INDUCTOR 22uH
L3	1-412-963-11	s	INDUCTOR 100uH
L4	1-412-955-11	s	INDUCTOR 22uH
L7	1-412-955-11	s	INDUCTOR 22uH
L8	1-412-955-11	s	INDUCTOR 22uH
L9	1-412-955-11	s	INDUCTOR 22uH
L10	1-412-955-11	s	INDUCTOR 22uH
L11	1-412-957-11	s	INDUCTOR 33uH
L12	1-412-955-11	s	INDUCTOR 22uH
L13	1-412-955-11	s	INDUCTOR 22uH
L14	1-412-282-41	s	INDUCTOR 470uH
L15	1-412-282-41	s	INDUCTOR 470uH
L16	1-412-955-11	s	INDUCTOR 22uH
L101	1-412-026-11	s	INDUCTOR CHIP 1uH
L102	1-412-026-11	s	INDUCTOR CHIP 1uH
L103	1-412-026-11	s	INDUCTOR CHIP 1uH
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-402-19	s	TRANSISTOR XN6501
Q5	8-729-402-19	s	TRANSISTOR XN6501
Q6	8-729-402-19	s	TRANSISTOR XN6501
Q7	8-729-402-19	s	TRANSISTOR XN6501
Q8	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q9	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q10	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q11	8-729-402-84	s	TRANSISTOR XN4601
Q12	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q13	8-729-141-75	s	TRANSISTOR 2SD596DV345
Q14	8-729-141-48	s	TRANSISTOR 2SB624-BV345
Q15	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q16	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q17	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q18	8-729-119-78	s	TRANSISTOR 2SC2603-E
Q101	8-729-101-07	s	TRANSISTOR 2SB798
Q102	8-729-101-07	s	TRANSISTOR 2SB798
Q103	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q201	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q202	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
R1	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R2	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R3	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R4	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R5	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R6	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R7	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R8	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R9	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R10	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R11	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R20	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R23	1-218-883-11	s	METAL 33K 0.50% 1/16W
R24	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R25	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R29	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R30	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R31	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R32	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R33	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R34	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R35	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R40	1-218-720-11	s	METAL 15K 0.50% 1/16W
R41	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R42	1-218-724-11	s	METAL 22K 0.50% 1/16W
R44	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R45	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R46	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R47	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R48	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R49	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R50	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R51	1-218-889-11	s	METAL, CHIP 56K 0.50% 1/16W
R52	1-218-889-11	s	METAL, CHIP 56K 0.50% 1/16W
R53	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R54	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R55	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R56	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R57	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R58	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R59	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R60	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R61	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R62	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R63	1-218-738-11	s	METAL 82K 0.50% 1/16W
R64	1-218-738-11	s	METAL 82K 0.50% 1/16W
R65	1-218-716-11	s	METAL 10K 0.50% 1/16W
R66	1-218-724-11	s	METAL 22K 0.50% 1/16W
R67	1-218-724-11	s	METAL 22K 0.50% 1/16W
R68	1-218-716-11	s	METAL 10K 0.50% 1/16W
R69	1-218-716-11	s	METAL 10K 0.50% 1/16W
R70	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R71	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R72	1-218-724-11	s	METAL 22K 0.50% 1/16W
R73	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R74	1-218-710-11	s	METAL, CHIP 5.6K 0.50% 1/16W
R75	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R76	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R77	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R78	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R79	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R80	1-216-807-11	s	METAL, CHIP 68 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R81	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R82	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R83	1-216-807-11	s	METAL, CHIP 68 5% 1/16W
R84	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R85	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R87	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R88	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R89	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R90	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R91	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R92	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R93	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R94	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R99	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R106	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R107	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R108	1-218-883-11	s	METAL 33K 0.50% 1/16W
R109	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R110	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R111	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R112	1-218-883-11	s	METAL 33K 0.50% 1/16W
R113	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R114	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R116	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R118	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R119	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R120	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R122	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R123	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R124	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R125	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R201	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R202	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R203	1-216-843-11	s	METAL, CHIP 68K 5% 1/16W
R204	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R205	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R206	1-216-849-11	s	METAL, CHIP 220K 5% 1/16W
R207	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R208	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R209	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R210	1-211-977-11	s	METAL, CHIP 22 0.50% 1/16W
R213	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R214	1-211-977-11	s	METAL, CHIP 22 0.50% 1/16W
R217	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R218	1-218-720-11	s	METAL 15K 0.50% 1/16W
R219	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R220	1-218-720-11	s	METAL 15K 0.50% 1/16W
R221	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R222	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R223	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R224	1-218-733-11	s	METAL 51K 0.50% 1/16W
R225	1-218-733-11	s	METAL 51K 0.50% 1/16W
R226	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R227	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R229	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R230	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R231	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R232	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R233	1-216-864-11	s	METAL, CHIP 0 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R234	1-216-822-11	s	METAL, CHIP 1.2K 5% 1/16W
R301	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R302	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R303	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R304	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R305	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R306	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R307	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R308	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R309	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R310	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R311	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R312	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R313	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R314	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R315	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R316	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R317	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R318	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R319	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R320	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R322	1-247-871-11	s	CARBON 47K 5% 1/4W
RB2	1-239-309-11	s	RESISTOR BLOCK, CHIP 100K
RB4	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB5	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB6	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB7	1-239-430-11	s	NETWORK RESISTOR (CHIP) 4.7K
RB9	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB10	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB11	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RV201	1-238-855-11	s	RES, ADJ, METAL 4.7K

PA-187(B) BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-679-11	o	CONTACT, FEMALE
1pc	1-569-680-11	o	HOUSING, CONNECTOR 2P
C1	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C3	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C4	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C5	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C6	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C7	1-162-959-11	s	CERAMIC 330PF 5% 50V
C8	1-104-914-11	s	TANTALUM 22uF 20% 16V
C10	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C12	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C14	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C17	1-164-156-11	s	CERAMIC 0.1uF 25V
C18	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C19	1-164-156-11	s	CERAMIC 0.1uF 25V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C23	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C27	1-135-259-11	s	TANTALUM 10uF 20% 6.3V
C28	1-164-156-11	s	CERAMIC 0.1uF 25V
C29	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C30	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C31	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C32	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C33	1-164-156-11	s	CERAMIC 0.1uF 25V
C34	1-113-991-11	s	TANTALUM 33uF 20% 16V
C35	1-164-156-11	s	CERAMIC 0.1uF 25V
C36	1-164-156-11	s	CERAMIC 0.1uF 25V
C37	1-113-500-11	s	TANTALUM 100uF 20% 10V
C38	1-164-156-11	s	CERAMIC 0.1uF 25V
C39	1-164-156-11	s	CERAMIC 0.1uF 25V
C40	1-164-156-11	s	CERAMIC 0.1uF 25V
C41	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C44	1-164-156-11	s	CERAMIC 0.1uF 25V
C45	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C46	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C47	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C48	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C49	1-113-500-11	s	TANTALUM 100uF 20% 10V
C50	1-113-500-11	s	TANTALUM 100uF 20% 10V
C51	1-164-156-11	s	CERAMIC 0.1uF 25V
C55	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C56	1-164-156-11	s	CERAMIC 0.1uF 25V
C57	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C58	1-164-156-11	s	CERAMIC 0.1uF 25V
C59	1-164-156-11	s	CERAMIC 0.1uF 25V
C61	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C62	1-131-381-11	s	TANTALUM 47uF 20% 10V
CN1	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN2	1-766-382-11	o	CONNECTOR (1.5MM)(SMD) 10P MALE
CN3	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
D1	8-719-059-50	s	DIODE MA3J142D0LS0
D2	8-719-059-50	s	DIODE MA3J142D0LS0
D4	8-719-017-42	s	DIODE HSM88WA
FB1	1-543-775-11	s	FILTER, EMI

(PA-187(B) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC2	8-759-058-62	s	IC TC7S08FU(TE85R)
IC4	8-759-985-17	s	IC 74AC04SJ
IC5	8-759-058-62	s	IC TC7S08FU(TE85R)
IC6	8-759-058-62	s	IC TC7S08FU(TE85R)
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-117-32	s	TRANSISTOR 2SC4177
Q3	8-729-101-25	s	TRANSISTOR 2SC1009A
Q5	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q7	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q8	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q9	8-769-401-67	s	TRANSISTOR 3SK163-1
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q11	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-769-401-67	s	TRANSISTOR 3SK163-1
Q14	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q15	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-769-401-67	s	TRANSISTOR 3SK163-1
Q18	8-729-117-32	s	TRANSISTOR 2SC4177
Q24	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q25	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q26	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q27	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q28	8-729-117-32	s	TRANSISTOR 2SC4177
Q29	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q33	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q35	8-729-117-32	s	TRANSISTOR 2SC4177
Q36	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q37	8-769-401-67	s	TRANSISTOR 3SK163-1
Q38	8-729-117-32	s	TRANSISTOR 2SC4177
Q39	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q40	8-769-401-67	s	TRANSISTOR 3SK163-1
R1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R3	1-218-732-11	s	METAL 47K 0.50% 1/16W
R4	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R5	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R6	1-218-883-11	s	METAL 33K 0.50% 1/16W
R7	1-218-716-11	s	METAL 10K 0.50% 1/16W
R8	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R9	1-218-716-11	s	METAL 10K 0.50% 1/16W
R10	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R11	1-218-720-11	s	METAL 15K 0.50% 1/16W
R12	1-218-844-11	s	METAL, CHIP 750 0.50% 1/16W
R13	1-218-668-11	s	METAL 100 0.50% 1/16W
R14	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R25	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R28	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R29	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R30	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R31	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R32	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R33	1-218-668-11	s	METAL 100 0.50% 1/16W
R34	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R35	1-218-740-11	s	METAL 100K 0.50% 1/16W
R36	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R37	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W

(PA-187(B) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R38	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R39	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R40	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R41	1-218-668-11	s	METAL 100 0.50% 1/16W
R42	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R43	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R44	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R47	1-218-720-11	s	METAL 15K 0.50% 1/16W
R49	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R50	1-218-720-11	s	METAL 15K 0.50% 1/16W
R59	1-218-716-11	s	METAL 10K 0.50% 1/16W
R60	1-218-732-11	s	METAL 47K 0.50% 1/16W
R62	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R64	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R65	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R66	1-218-688-11	s	METAL 680 0.50% 1/16W
R67	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R69	1-218-705-11	s	METAL 3.6K 0.50% 1/16W
R70	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R71	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R72	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R73	1-218-668-11	s	METAL 100 0.50% 1/16W
R74	1-218-668-11	s	METAL 100 0.50% 1/16W
R75	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R76	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R77	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R78	1-218-740-11	s	METAL 100K 0.50% 1/16W
R79	1-218-740-11	s	METAL 100K 0.50% 1/16W
R80	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R81	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R82	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R83	1-218-736-11	s	METAL 68K 0.50% 1/16W
R84	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R85	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R86	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R87	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R92	1-218-729-11	s	METAL 36K 0.50% 1/16W
R93	1-218-740-11	s	METAL 100K 0.50% 1/16W
R94	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R97	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R99	1-218-724-11	s	METAL 22K 0.50% 1/16W
R103	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R104	1-218-720-11	s	METAL 15K 0.50% 1/16W
R105	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R106	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R107	1-218-720-11	s	METAL 15K 0.50% 1/16W
R108	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R109	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R110	1-215-453-00	s	METAL 22K 1% 1/6W
RV1	1-241-263-11	s	RES, ADJ, METAL 5K

PA-188(G) BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-679-11	o	CONTACT, FEMALE
1pc	1-569-680-11	o	HOUSING, CONNECTOR 2P
C1	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C3	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C4	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C5	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C6	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C7	1-162-959-11	s	CERAMIC 330PF 5% 50V
C8	1-104-914-11	s	TANTALUM 22uF 20% 16V
C10	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C12	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C14	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C17	1-164-156-11	s	CERAMIC 0.1uF 25V
C18	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C19	1-164-156-11	s	CERAMIC 0.1uF 25V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C23	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C27	1-135-259-11	s	TANTALUM 10uF 20% 6.3V
C28	1-164-156-11	s	CERAMIC 0.1uF 25V
C29	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C30	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C31	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C32	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C33	1-164-156-11	s	CERAMIC 0.1uF 25V
C34	1-113-991-11	s	TANTALUM 33uF 20% 16V
C35	1-164-156-11	s	CERAMIC 0.1uF 25V
C36	1-164-156-11	s	CERAMIC 0.1uF 25V
C37	1-113-500-11	s	TANTALUM 100uF 20% 10V
C38	1-164-156-11	s	CERAMIC 0.1uF 25V
C39	1-164-156-11	s	CERAMIC 0.1uF 25V
C40	1-164-156-11	s	CERAMIC 0.1uF 25V
C41	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C44	1-164-156-11	s	CERAMIC 0.1uF 25V
C45	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C46	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C47	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C48	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C49	1-164-156-11	s	CERAMIC 0.1uF 25V
C50	1-113-500-11	s	TANTALUM 100uF 20% 10V
C51	1-113-500-11	s	TANTALUM 100uF 20% 10V
C52	1-164-156-11	s	CERAMIC 0.1uF 25V
C55	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C56	1-164-156-11	s	CERAMIC 0.1uF 25V
C57	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C58	1-164-156-11	s	CERAMIC 0.1uF 25V
C59	1-164-156-11	s	CERAMIC 0.1uF 25V
C61	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C62	1-131-381-11	s	TANTALUM 47uF 20% 10V
CN1	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN2	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN3	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
D1	8-719-059-50	s	DIODE MA3J142D0LS0
D2	8-719-059-50	s	DIODE MA3J142D0LS0
D4	8-719-017-42	s	DIODE HSM88WA

(PA-188(G) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
FB1	1-543-775-11	s	FILTER, EMI
IC2	8-759-058-62	s	IC TC7S08FU(TE85R)
IC3	8-759-075-53	s	IC LM35DM
IC4	8-759-985-17	s	IC 74AC04SJ
IC5	8-759-058-62	s	IC TC7S08FU(TE85R)
IC6	8-759-058-62	s	IC TC7S08FU(TE85R)
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-117-32	s	TRANSISTOR 2SC4177
Q3	8-729-101-25	s	TRANSISTOR 2SC1009A
Q5	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q7	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q8	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q9	8-769-401-67	s	TRANSISTOR 3SK163-1
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q11	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-769-401-67	s	TRANSISTOR 3SK163-1
Q14	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q15	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-769-401-67	s	TRANSISTOR 3SK163-1
Q18	8-729-117-32	s	TRANSISTOR 2SC4177
Q24	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q25	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q26	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q27	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q28	8-729-117-32	s	TRANSISTOR 2SC4177
Q29	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q33	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q35	8-729-117-32	s	TRANSISTOR 2SC4177
Q36	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q37	8-769-401-67	s	TRANSISTOR 3SK163-1
Q38	8-729-117-32	s	TRANSISTOR 2SC4177
Q39	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q40	8-769-401-67	s	TRANSISTOR 3SK163-1
R1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R3	1-218-732-11	s	METAL 47K 0.50% 1/16W
R4	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R5	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R6	1-218-883-11	s	METAL 33K 0.50% 1/16W
R7	1-218-716-11	s	METAL 10K 0.50% 1/16W
R8	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R9	1-218-716-11	s	METAL 10K 0.50% 1/16W
R10	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R11	1-218-720-11	s	METAL 15K 0.50% 1/16W
R12	1-218-844-11	s	METAL, CHIP 750 0.50% 1/16W
R13	1-218-668-11	s	METAL 100 0.50% 1/16W
R14	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R25	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R28	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R29	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R30	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R31	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R32	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R33	1-218-668-11	s	METAL 100 0.50% 1/16W
R34	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R35	1-218-740-11	s	METAL 100K 0.50% 1/16W

(PA-188(G) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R36	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R37	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R38	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R39	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R40	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R41	1-218-668-11	s	METAL 100 0.50% 1/16W
R42	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R43	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R44	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R47	1-218-720-11	s	METAL 15K 0.50% 1/16W
R49	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R50	1-218-720-11	s	METAL 15K 0.50% 1/16W
R59	1-218-716-11	s	METAL 10K 0.50% 1/16W
R60	1-218-732-11	s	METAL 47K 0.50% 1/16W
R62	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R64	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R65	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R66	1-218-688-11	s	METAL 680 0.50% 1/16W
R67	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R69	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R70	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R71	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R74	1-218-668-11	s	METAL 100 0.50% 1/16W
R75	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R76	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R77	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R78	1-218-740-11	s	METAL 100K 0.50% 1/16W
R79	1-218-740-11	s	METAL 100K 0.50% 1/16W
R80	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R81	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R82	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R83	1-218-736-11	s	METAL 68K 0.50% 1/16W
R84	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R85	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R86	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R87	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R92	1-218-729-11	s	METAL 36K 0.50% 1/16W
R93	1-218-740-11	s	METAL 100K 0.50% 1/16W
R94	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R96	1-218-668-11	s	METAL 100 0.50% 1/16W
R97	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R99	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R103	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R104	1-218-720-11	s	METAL 15K 0.50% 1/16W
R105	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R106	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R107	1-218-720-11	s	METAL 15K 0.50% 1/16W
R108	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R109	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R110	1-215-455-00	s	METAL 27K 1% 1/6W

PA-189(R) BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-569-679-11	o	CONTACT, FEMALE
1pc	1-569-680-11	o	HOUSING, CONNECTOR 2P
C1	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C2	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C3	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C4	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C5	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C6	1-135-213-21	s	TANTALUM, CHIP 3.3uF 20% 25V
C7	1-162-959-11	s	CERAMIC 330PF 5% 50V
C8	1-104-914-11	s	TANTALUM 22uF 20% 16V
C10	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C12	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C14	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C17	1-164-156-11	s	CERAMIC 0.1uF 25V
C18	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C19	1-164-156-11	s	CERAMIC 0.1uF 25V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C23	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C27	1-135-259-11	s	TANTALUM 10uF 20% 6.3V
C28	1-164-156-11	s	CERAMIC 0.1uF 25V
C29	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C30	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C31	1-162-908-11	s	CERAMIC 3PF 0.25PF 50V
C32	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C33	1-164-156-11	s	CERAMIC 0.1uF 25V
C34	1-113-991-11	s	TANTALUM 33uF 20% 16V
C35	1-164-156-11	s	CERAMIC 0.1uF 25V
C36	1-164-156-11	s	CERAMIC 0.1uF 25V
C37	1-113-500-11	s	TANTALUM 100uF 20% 10V
C38	1-164-156-11	s	CERAMIC 0.1uF 25V
C39	1-164-156-11	s	CERAMIC 0.1uF 25V
C40	1-164-156-11	s	CERAMIC 0.1uF 25V
C41	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C44	1-164-156-11	s	CERAMIC 0.1uF 25V
C45	1-135-177-21	s	TANTALUM, CHIP 1uF 10% 25V
C46	1-107-690-11	s	TANTALUM 6.8uF 20% 35V
C47	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C48	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C50	1-113-500-11	s	TANTALUM 100uF 20% 10V
C51	1-113-500-11	s	TANTALUM 100uF 20% 10V
C52	1-164-156-11	s	CERAMIC 0.1uF 25V
C55	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C56	1-164-156-11	s	CERAMIC 0.1uF 25V
C57	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C58	1-164-156-11	s	CERAMIC 0.1uF 25V
C59	1-164-156-11	s	CERAMIC 0.1uF 25V
C61	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C62	1-131-381-11	s	TANTALUM 47uF 20% 10V
CN1	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN2	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN3	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
D1	8-719-059-50	s	DIODE MA3J142D0LS0
D2	8-719-059-50	s	DIODE MA3J142D0LS0
D4	8-719-017-42	s	DIODE HSM88WA
FB1	1-543-775-11	s	FILTER, EMI

(PA-189(R) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC2	8-759-058-62	s	IC TC7S08FU(TE85R)
IC4	8-759-985-17	s	IC 74AC04SJ
IC5	8-759-058-62	s	IC TC7S08FU(TE85R)
IC6	8-759-058-62	s	IC TC7S08FU(TE85R)
Q1	8-729-402-19	s	TRANSISTOR XN6501
Q2	8-729-117-32	s	TRANSISTOR 2SC4177
Q3	8-729-101-25	s	TRANSISTOR 2SC1009A
Q5	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q7	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q8	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q9	8-769-401-67	s	TRANSISTOR 3SK163-1
Q10	8-729-117-32	s	TRANSISTOR 2SC4177
Q11	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q12	8-729-117-32	s	TRANSISTOR 2SC4177
Q13	8-769-401-67	s	TRANSISTOR 3SK163-1
Q14	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q15	8-729-117-32	s	TRANSISTOR 2SC4177
Q16	8-769-401-67	s	TRANSISTOR 3SK163-1
Q18	8-729-117-32	s	TRANSISTOR 2SC4177
Q24	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q25	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q26	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q27	8-729-143-13	s	TRANSISTOR 2SC4176-B34
Q28	8-729-117-32	s	TRANSISTOR 2SC4177
Q29	8-729-117-32	s	TRANSISTOR 2SC4177
Q32	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q33	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q35	8-729-117-32	s	TRANSISTOR 2SC4177
Q36	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q37	8-769-401-67	s	TRANSISTOR 3SK163-1
Q38	8-729-117-32	s	TRANSISTOR 2SC4177
Q39	8-729-117-16	s	TRANSISTOR 2SA1611-M6
Q40	8-769-401-67	s	TRANSISTOR 3SK163-1
R1	1-218-716-11	s	METAL 10K 0.50% 1/16W
R3	1-218-732-11	s	METAL 47K 0.50% 1/16W
R4	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R5	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R6	1-218-883-11	s	METAL 33K 0.50% 1/16W
R7	1-218-716-11	s	METAL 10K 0.50% 1/16W
R8	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R9	1-218-716-11	s	METAL 10K 0.50% 1/16W
R10	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R11	1-218-720-11	s	METAL 15K 0.50% 1/16W
R12	1-218-844-11	s	METAL, CHIP 750 0.50% 1/16W
R13	1-218-668-11	s	METAL 100 0.50% 1/16W
R14	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R20	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R25	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R28	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R29	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R30	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R31	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R32	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R33	1-218-668-11	s	METAL 100 0.50% 1/16W
R34	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R35	1-218-740-11	s	METAL 100K 0.50% 1/16W
R36	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R37	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W

(PA-189(R) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R38	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R39	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R40	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R41	1-218-668-11	s	METAL 100 0.50% 1/16W
R42	1-218-866-11	s	METAL, CHIP 6.2K 0.50% 1/16W
R43	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R44	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R47	1-218-720-11	s	METAL 15K 0.50% 1/16W
R49	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R50	1-218-720-11	s	METAL 15K 0.50% 1/16W
R59	1-218-716-11	s	METAL 10K 0.50% 1/16W
R60	1-218-732-11	s	METAL 47K 0.50% 1/16W
R62	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R64	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R65	1-218-695-11	s	METAL 1.3K 0.50% 1/16W
R66	1-218-688-11	s	METAL 680 0.50% 1/16W
R67	1-218-845-11	s	METAL, CHIP 820 0.50% 1/16W
R69	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R70	1-218-704-11	s	METAL 3.3K 0.50% 1/16W
R71	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R72	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R73	1-218-668-11	s	METAL 100 0.50% 1/16W
R74	1-218-668-11	s	METAL 100 0.50% 1/16W
R75	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R76	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R77	1-216-853-11	s	METAL, CHIP 470K 5% 1/16W
R78	1-218-740-11	s	METAL 100K 0.50% 1/16W
R79	1-218-740-11	s	METAL 100K 0.50% 1/16W
R80	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R81	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R82	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R83	1-218-736-11	s	METAL 68K 0.50% 1/16W
R84	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R85	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R86	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R87	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R92	1-218-729-11	s	METAL 36K 0.50% 1/16W
R93	1-218-740-11	s	METAL 100K 0.50% 1/16W
R94	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R97	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R99	1-218-723-11	s	METAL 20K 0.50% 1/16W
R103	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R104	1-218-720-11	s	METAL 15K 0.50% 1/16W
R105	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R106	1-211-981-11	s	METAL, CHIP 33 0.50% 1/16W
R107	1-218-720-11	s	METAL 15K 0.50% 1/16W
R108	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R109	1-211-969-11	s	METAL, CHIP 10 0.50% 1/16W
R110	1-215-452-00	s	METAL 20K 1% 1/6W
RV1	1-241-263-11	s	RES, ADJ, METAL 5K

PR-216 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-121-A	o	MOUNTED CIRCUIT BOARD, PR-216
3pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
3pcs	7-621-772-18	s	SCREW +B 2X4
C401	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C402	1-164-156-11	s	CERAMIC 0.1uF 25V
C404	1-164-156-11	s	CERAMIC 0.1uF 25V
C405	1-164-156-11	s	CERAMIC 0.1uF 25V
C406	1-164-156-11	s	CERAMIC 0.1uF 25V
C407	1-164-156-11	s	CERAMIC 0.1uF 25V
C409	1-113-642-11	s	TANTALUM 47uF 20% 10V
C410	1-113-642-11	s	TANTALUM 47uF 20% 10V
C411	1-113-642-11	s	TANTALUM 47uF 20% 10V
C412	1-164-156-11	s	CERAMIC 0.1uF 25V
C413	1-164-156-11	s	CERAMIC 0.1uF 25V
C414	1-164-156-11	s	CERAMIC 0.1uF 25V
C415	1-164-156-11	s	CERAMIC 0.1uF 25V
C416	1-164-156-11	s	CERAMIC 0.1uF 25V
C417	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C418	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C419	1-164-156-11	s	CERAMIC 0.1uF 25V
C420	1-164-156-11	s	CERAMIC 0.1uF 25V
C421	1-164-156-11	s	CERAMIC 0.1uF 25V
C422	1-164-156-11	s	CERAMIC 0.1uF 25V
C424	1-164-156-11	s	CERAMIC 0.1uF 25V
C425	1-164-156-11	s	CERAMIC 0.1uF 25V
C426	1-164-156-11	s	CERAMIC 0.1uF 25V
C427	1-164-156-11	s	CERAMIC 0.1uF 25V
C428	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C429	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C430	1-164-156-11	s	CERAMIC 0.1uF 25V
C431	1-164-156-11	s	CERAMIC 0.1uF 25V
C432	1-164-156-11	s	CERAMIC 0.1uF 25V
C433	1-164-156-11	s	CERAMIC 0.1uF 25V
C434	1-164-156-11	s	CERAMIC 0.1uF 25V
C435	1-164-156-11	s	CERAMIC 0.1uF 25V
C436	1-164-156-11	s	CERAMIC 0.1uF 25V
C437	1-164-156-11	s	CERAMIC 0.1uF 25V
C440	1-164-156-11	s	CERAMIC 0.1uF 25V
C441	1-164-156-11	s	CERAMIC 0.1uF 25V
C442	1-164-156-11	s	CERAMIC 0.1uF 25V
C443	1-164-156-11	s	CERAMIC 0.1uF 25V
C444	1-164-156-11	s	CERAMIC 0.1uF 25V
C445	1-164-156-11	s	CERAMIC 0.1uF 25V
C446	1-164-156-11	s	CERAMIC 0.1uF 25V
C447	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C448	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C449	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C450	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C451	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C452	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C455	1-164-156-11	s	CERAMIC 0.1uF 25V
C456	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C457	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C458	1-164-156-11	s	CERAMIC 0.1uF 25V
C459	1-164-156-11	s	CERAMIC 0.1uF 25V
C460	1-164-156-11	s	CERAMIC 0.1uF 25V
C461	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C462	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V

(PR-216 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C463	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C464	1-135-210-11	s	TANTALUM 4.7uF 10% 10V
C465	1-164-156-11	s	CERAMIC 0.1uF 25V
C466	1-164-156-11	s	CERAMIC 0.1uF 25V
C467	1-164-156-11	s	CERAMIC 0.1uF 25V
C468	1-164-156-11	s	CERAMIC 0.1uF 25V
C469	1-164-156-11	s	CERAMIC 0.1uF 25V
C473	1-164-156-11	s	CERAMIC 0.1uF 25V
C474	1-164-156-11	s	CERAMIC 0.1uF 25V
C475	1-164-156-11	s	CERAMIC 0.1uF 25V
C476	1-164-156-11	s	CERAMIC 0.1uF 25V
C477	1-164-156-11	s	CERAMIC 0.1uF 25V
C478	1-164-156-11	s	CERAMIC 0.1uF 25V
C479	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C480	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C481	1-164-156-11	s	CERAMIC 0.1uF 25V
C482	1-164-156-11	s	CERAMIC 0.1uF 25V
C483	1-164-156-11	s	CERAMIC 0.1uF 25V
C487	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C488	1-164-156-11	s	CERAMIC 0.1uF 25V
C490	1-111-253-11	s	TANTALUM 100uF 20% 6.3V
C491	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C492	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C497	1-164-156-11	s	CERAMIC 0.1uF 25V
C498	1-164-156-11	s	CERAMIC 0.1uF 25V
C499	1-164-156-11	s	CERAMIC 0.1uF 25V
C500	1-164-156-11	s	CERAMIC 0.1uF 25V
C501	1-164-156-11	s	CERAMIC 0.1uF 25V
C502	1-164-156-11	s	CERAMIC 0.1uF 25V
C503	1-164-156-11	s	CERAMIC 0.1uF 25V
C504	1-164-156-11	s	CERAMIC 0.1uF 25V
D401	8-719-029-63	s	DIODE RD4.3UH-T1
D402	8-719-029-63	s	DIODE RD4.3UH-T1
FL401	1-233-753-21	s	FILTER, LOW PASS
IC401	8-759-095-59	s	IC M5237ML-TP1
IC402	8-759-173-16	s	IC TL062CPW
IC403	8-759-049-86	s	IC SN74HCT244APW-E20
IC404	8-759-079-49	s	IC TC74VHC04FS(EL)
IC406	8-752-360-44	s	IC CXK1203AR
IC407	8-752-360-44	s	IC CXK1203AR
IC408	8-752-360-44	s	IC CXK1203AR
IC409	8-752-360-44	s	IC CXK1203AR
IC412	8-752-334-64	s	IC CXD1171M
IC413	8-759-196-96	s	IC TC7SH08FU-TE85R
IC414	8-759-080-02	s	IC TC74VHC541FS(EL)
IC415	8-759-080-02	s	IC TC74VHC541FS(EL)
IC416	8-759-080-02	s	IC TC74VHC541FS(EL)
IC417	8-759-080-02	s	IC TC74VHC541FS(EL)
IC418	8-759-076-06	s	IC TL064CPW
IC423	8-759-049-86	s	IC SN74HCT244APW-E20
IC424	8-759-079-49	s	IC TC74VHC04FS(EL)
IC425	8-759-079-61	s	IC TC74VHC74FS(EL)
IC426	8-759-079-78	s	IC TC74VHC165FS(EL)
IC427	8-759-079-78	s	IC TC74VHC165FS(EL)
IC428	8-759-079-61	s	IC TC74VHC74FS(EL)
IC429	8-759-196-93	s	IC TC7SH00FU-TE85R

(PR-216 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
L401	1-424-643-11	s	COIL, CHOKE 10UH
Q401	8-729-101-07	s	TRANSISTOR 2SB798
Q402	8-729-101-07	s	TRANSISTOR 2SB798
Q403	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q404	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q405	8-729-402-84	s	TRANSISTOR XN4601
R401	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R402	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R403	1-218-886-11	s	METAL, CHIP 43K 0.50% 1/16W
R405	1-218-720-11	s	METAL 15K 0.50% 1/16W
R406	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R408	1-218-729-11	s	METAL 36K 0.50% 1/16W
R409	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R411	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R412	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R413	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R415	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R416	1-218-724-11	s	METAL 22K 0.50% 1/16W
R417	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R418	1-218-676-11	s	METAL 220 0.50% 1/16W
R419	1-218-676-11	s	METAL 220 0.50% 1/16W
R420	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R421	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R422	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R424	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R425	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R426	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R429	1-218-676-11	s	METAL 220 0.50% 1/16W
R430	1-218-716-11	s	METAL 10K 0.50% 1/16W
R431	1-218-716-11	s	METAL 10K 0.50% 1/16W
R434	1-218-883-11	s	METAL 33K 0.50% 1/16W
R435	1-218-883-11	s	METAL 33K 0.50% 1/16W
R436	1-218-716-11	s	METAL 10K 0.50% 1/16W
R437	1-218-716-11	s	METAL 10K 0.50% 1/16W
R440	1-218-883-11	s	METAL 33K 0.50% 1/16W
R441	1-218-883-11	s	METAL 33K 0.50% 1/16W
R442	1-218-716-11	s	METAL 10K 0.50% 1/16W
R443	1-218-716-11	s	METAL 10K 0.50% 1/16W
R447	1-218-883-11	s	METAL 33K 0.50% 1/16W
R448	1-218-883-11	s	METAL 33K 0.50% 1/16W
R451	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R452	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R453	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R454	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R455	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R456	1-218-867-11	s	METAL, CHIP 6.8K 0.50% 1/16W
R457	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R458	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R459	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R460	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R461	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R462	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R463	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R464	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R465	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R466	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R467	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R468	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W

(PR-216 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R469	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R472	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R473	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R474	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R476	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R477	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R478	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R479	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R480	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R481	1-216-819-11	s	METAL, CHIP 680 5% 1/16W
R482	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
RB401	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB402	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB403	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB404	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB405	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB406	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB407	1-236-908-11	s	RESISTOR, NETWORK, CHIP 10k
RB408	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB409	1-239-409-11	s	NETWORK, RESISTOR (CHIP TYPE)
RB410	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB411	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB412	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB413	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB414	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB415	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB416	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB417	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB418	1-239-419-11	s	NETWORK RESISTOR (CHIP) 470
RB420	1-239-409-11	s	NETWORK, RESISTOR (CHIP TYPE)
RB422	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB423	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB424	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB425	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB426	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB427	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB428	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB429	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4

SE-366 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-663-031-11	o	PRINTED CIRCUIT BOARD, SE-366
CN1	1-573-806-21	s	PIN, CONNECTOR (1.5MM) (SMD)6P
PH1	8-749-925-05	s	REFLECTOR NJL5183KA-F20-TE1
PH2	8-749-925-05	s	REFLECTOR NJL5183KA-F20-TE1

SW-790 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-119-A	o	MOUNTED CIRCUIT BOARD, SW-790
5pcs	4-937-336-42	s	HOLDER, LED
5pcs	3-604-357-01	o	KNOB(L), SW
C1	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C2	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C3	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C4	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C5	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C6	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C7	1-135-149-21	s	TANTALUM, CHIP 2.2uF 10% 10V
CN1	1-690-107-11	o	CONNECTOR, 12P FEMALE
D1	8-719-970-06	s	DIODE MPR3371X-150
D2	8-719-970-06	s	DIODE MPR3371X-150
D3	8-719-970-07	s	DIODE MPG3371X-150
D4	8-719-970-06	s	DIODE MPR3371X-150
D5	8-719-970-06	s	DIODE MPR3371X-150
D6	8-719-800-76	s	DIODE 1SS226
FB1	1-414-135-11	s	INDUCTOR CHIP 0uH
FB2	1-414-135-11	s	INDUCTOR CHIP 0uH
IC1	8-759-268-29	s	IC SN74HC595ANS
IC2	8-759-926-25	s	IC SN74HC165NS
IC3	8-759-926-25	s	IC SN74HC165NS
IC4	8-759-432-66	s	IC TC7W74F(TE12R)
L1	1-412-955-11	s	INDUCTOR 22uH
L2	1-412-955-11	s	INDUCTOR 22uH
Q1	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q2	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q3	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q4	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q5	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
R1	1-216-049-91	s	METAL 1K 5% 1/10W
R2	1-216-049-91	s	METAL 1K 5% 1/10W
R3	1-216-049-91	s	METAL 1K 5% 1/10W
R4	1-216-049-91	s	METAL 1K 5% 1/10W
R5	1-216-049-91	s	METAL 1K 5% 1/10W
R6	1-216-097-91	s	METAL 100K 5% 1/10W
R7	1-216-097-91	s	METAL 100K 5% 1/10W
R8	1-216-097-91	s	METAL 100K 5% 1/10W
R9	1-216-097-91	s	METAL 100K 5% 1/10W
R10	1-216-097-91	s	METAL 100K 5% 1/10W
R11	1-216-097-91	s	METAL 100K 5% 1/10W
R12	1-216-097-91	s	METAL 100K 5% 1/10W
R13	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R14	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R15	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R16	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R17	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R18	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R19	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R20	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R21	1-216-097-91	s	METAL 100K 5% 1/10W
R22	1-216-097-91	s	METAL 100K 5% 1/10W
R23	1-216-097-91	s	METAL 100K 5% 1/10W
R24	1-216-097-91	s	METAL 100K 5% 1/10W
R25	1-216-097-91	s	METAL 100K 5% 1/10W

(SW-790 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R26	1-216-097-91	s	METAL 100K 5% 1/10W
R27	1-216-097-91	s	METAL 100K 5% 1/10W
R28	1-216-097-91	s	METAL 100K 5% 1/10W
R29	1-216-097-91	s	METAL 100K 5% 1/10W
R30	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R31	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R32	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R33	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R34	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R35	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R36	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R37	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R38	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R39	1-216-097-91	s	METAL 100K 5% 1/10W
R40	1-216-049-91	s	METAL 1K 5% 1/10W
R41	1-216-049-91	s	METAL 1K 5% 1/10W
R42	1-216-097-91	s	METAL 100K 5% 1/10W
R43	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R44	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R45	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R46	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R47	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
S1	1-554-303-21	s	SWITCH, TACTILE
S2	1-554-592-21	s	SWITCH, PUSH
S3	1-554-592-21	s	SWITCH, PUSH
S4	1-570-859-11	s	SWITCH, SLIDE
S5	1-554-303-21	s	SWITCH, TACTILE
S6	1-570-851-11	s	SWITCH, SLIDE
S7	1-554-303-21	s	SWITCH, TACTILE
S8	1-570-859-11	s	SWITCH, SLIDE
S9	1-570-859-11	s	SWITCH, SLIDE
S10	1-570-859-11	s	SWITCH, SLIDE
S11	1-554-303-21	s	SWITCH, TACTILE
S12	1-554-303-21	s	SWITCH, TACTILE
S13	1-553-875-00	s	SWITCH, RUBBER
S14	1-553-875-00	s	SWITCH, RUBBER
S15	1-553-875-00	s	SWITCH, RUBBER
S16	1-553-875-00	s	SWITCH, RUBBER

SW-791 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-115-A	o	MOUNTED CIRCUIT BOARD, SW-791
CN101	1-566-765-11	o	PIN, CONNECTOR 10P
R101	1-216-049-91	s	METAL 1K 5% 1/10W
R102	1-216-049-91	s	METAL 1K 5% 1/10W
R103	1-216-049-91	s	METAL 1K 5% 1/10W
R104	1-216-049-91	s	METAL 1K 5% 1/10W
R105	1-216-049-91	s	METAL 1K 5% 1/10W
R106	1-216-049-91	s	METAL 1K 5% 1/10W
R107	1-216-049-91	s	METAL 1K 5% 1/10W
R108	1-216-049-91	s	METAL 1K 5% 1/10W
R109	1-216-049-91	s	METAL 1K 5% 1/10W
S101	1-762-123-11	s	SWITCH, TOGGLE
S102	1-762-123-11	s	SWITCH, TOGGLE
S103	1-762-123-11	s	SWITCH, TOGGLE
S104	1-762-531-11	s	SWITCH, TOGGLE
S105	1-553-510-11	s	SWITCH, SLIDE

SW-792 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-131-A	o	MOUNTED CIRCUIT BOARD, SW-792
1pc	3-604-390-01	s	KNOB, VR
1pc	7-621-732-09	s	SET-SCT HEX. 2X3 WP
C201	1-163-038-91	s	CERAMIC 0.1uF 25V
C202	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
CN201	1-565-879-11	s	PIN, CONNECTOR (PC BOARD) 7P
R201	1-216-049-91	s	METAL 1K 5% 1/10W
R202	1-216-049-91	s	METAL 1K 5% 1/10W
R203	1-216-049-91	s	METAL 1K 5% 1/10W
R204	1-216-049-91	s	METAL 1K 5% 1/10W
R205	1-216-049-91	s	METAL 1K 5% 1/10W
RV201	1-223-684-11	s	RES, VAR, CARBON 5K
S201	1-570-984-11	s	SWITCH, TOGGLE
S202	1-692-313-11	s	SWITCH, KEY BOARD
S203	1-553-875-00	s	SWITCH, RUBBER
S204	1-570-993-11	s	SWITCH, TACT

SW-793 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-132-A	o	MOUNTED CIRCUIT BOARD, SW-793
1pc	1-543-751-11	o	CORE (TROIDAL)
1pc	1-560-372-00	o	CONTACT, AWG22-28
1pc	1-561-516-00	o	CONNECTOR HOUSING, ILG (4P)
3pcs	1-565-977-11	s	CONTACT, FEMALE AWG 28-32
1pc	1-565-979-11	o	HOUSING, 8P
2pcs	1-569-679-11	o	CONTACT, FEMALE
1pc	1-956-513-11	o	HARNESS, SUB (POWER)
1pc	1-956-522-11	o	HARNESS, SUB (SW793)
C301	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C302	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C303	1-164-232-11	s	CERAMIC, CHIP 0.01uF 10% 50V
C304	1-128-528-11	s	ELECT 470uF 20% 25V
CB301 ⚠	1-532-681-00	s	CIRCUIT BREAKER 4A 125V
CN301	1-506-703-11	o	CONNECTOR POST HEADER, ILG (4P)
CN304	1-566-763-11	o	PIN, CONNECTOR 8P
D301	8-719-911-55	s	DIODE U05G
IC301	8-759-926-25	s	IC SN74HC165NS
IC302	8-759-926-25	s	IC SN74HC165NS
L301	1-412-955-11	s	INDUCTOR 22uH
R301	1-216-097-91	s	METAL 100K 5% 1/10W
R302	1-216-097-91	s	METAL 100K 5% 1/10W
R303	1-216-097-91	s	METAL 100K 5% 1/10W
R304	1-216-097-91	s	METAL 100K 5% 1/10W
R305	1-216-097-91	s	METAL 100K 5% 1/10W
R306	1-216-097-91	s	METAL 100K 5% 1/10W
R307	1-216-097-91	s	METAL 100K 5% 1/10W
R308	1-216-097-91	s	METAL 100K 5% 1/10W
R309	1-216-097-91	s	METAL 100K 5% 1/10W
R310	1-216-097-91	s	METAL 100K 5% 1/10W
R311	1-216-097-91	s	METAL 100K 5% 1/10W
R312	1-216-097-91	s	METAL 100K 5% 1/10W
R313	1-216-097-91	s	METAL 100K 5% 1/10W
R314	1-216-097-91	s	METAL 100K 5% 1/10W
R315	1-216-097-91	s	METAL 100K 5% 1/10W
R316	1-216-097-91	s	METAL 100K 5% 1/10W
R317	1-216-097-91	s	METAL 100K 5% 1/10W
R318	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R319	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R320	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
S301	1-762-348-11	s	SWITCH, TOGGLE
S302	1-762-347-11	s	SWITCH, TOGGLE
W302	1-956-516-11	o	HARNESS, SUB (SW791)
W303	1-956-520-11	o	HARNESS, SUB (SW792)

TG-175/175(P) BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-107-A	o	MOUNTED CIRCUIT BOARD, TG-175 [for J,UC]
1pc	A-8311-145-A	o	MOUNTED CIRCUIT BOARD, TG-175(P) [for CE]
C1	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C2	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C3	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C4	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C5	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C6	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C7	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C9	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C10	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C11	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C12	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C13	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C14	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C15	1-126-394-11	s	ELECT, CHIP 10uF 20% 16V
C16	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C17	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C18	1-164-156-11	s	CERAMIC 0.1uF 25V
C19	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-164-156-11	s	CERAMIC 0.1uF 25V
C22	1-164-156-11	s	CERAMIC 0.1uF 25V
C23	1-164-156-11	s	CERAMIC 0.1uF 25V
C24	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C25	1-126-393-11	s	ELECT 33uF 20% 10V
C26	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C27	1-126-405-11	s	ELECT 10uF 20% 50V
C29	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C30	1-164-156-11	s	CERAMIC 0.1uF 25V
C31	1-104-920-11	s	TANTALUM 4.7uF 20% 35V
C32	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C33	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C34	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C35	1-162-927-11	s	CERAMIC, CHIP 100PF 5% 50V
C36	1-164-156-11	s	CERAMIC 0.1uF 25V
C37	1-104-920-11	s	TANTALUM 4.7uF 20% 35V
C38	1-126-397-11	s	ELECT, CHIP 33uF 20% 25V
C39	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C40	1-126-395-11	s	ELECT, CHIP 22uF 20% 16V
C41	1-164-156-11	s	CERAMIC 0.1uF 25V
C42	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C43	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C44	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C45	1-113-500-11	s	TANTALUM 100uF 20% 10V
C46	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C47	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C48	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C49	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C50	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C51	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C52	1-107-910-11	s	ELECT 100uF 20% 50V
C54	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C55	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C56	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C57	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C58	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V

(TG-175/175(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C59	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C60	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C61	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C62	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C63	1-113-987-11	s	TANTALUM 4.7uF 20% 25V
C64	1-104-919-11	s	TANTALUM, CHIP 10uF 20% 25V
C65	1-164-156-11	s	CERAMIC 0.1uF 25V
C66	1-164-156-11	s	CERAMIC 0.1uF 25V
C67	1-164-156-11	s	CERAMIC 0.1uF 25V
C68	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C70	1-135-181-21	s	TANTALUM, CHIP 4.7uF 10% 6.3V
C71	1-135-181-21	s	TANTALUM, CHIP 4.7uF 10% 6.3V
C72	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C73	1-113-682-11	s	TANTALUM CHIP 33uF
C74	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C76	1-164-156-11	s	CERAMIC 0.1uF 25V
C77	1-113-991-11	s	TANTALUM 33uF 20% 16V
C78	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C79	1-162-964-11	s	CERAMIC 0.001uF 10% 50V
C80	1-164-156-11	s	CERAMIC 0.1uF 25V
C81	1-164-156-11	s	CERAMIC 0.1uF 25V
C82	1-164-156-11	s	CERAMIC 0.1uF 25V
C83	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C84	1-104-652-11	s	ELECT 470uF 20% 10V
C85	1-128-528-11	s	ELECT 470uF 20% 25V
C86	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C87	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C88	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C91	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C92	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C93	1-131-377-00	s	TANTALUM 10uF 10% 10V
CN1	1-569-035-11	o	CONNECTOR, FPC (ZIF) 30P
CN2	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN3	1-766-382-11	o	CONNECTOR (1.5MM)(SMD) 10P MALE
CN4	1-764-007-11	s	PIN, CONNECTOR (SMD) 12P
CN5	1-764-007-11	s	PIN, CONNECTOR (SMD) 12P
CN6	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN7	1-766-383-11	o	CONNECTOR (1.5MM)(SMD) 12P MALE
CN8	1-573-806-21	s	PIN, CONNECTOR (1.5MM) (SMD)6P
CN9	1-568-336-11	s	CONNECTOR, BOARD TO BOARD 20P
CN10	1-695-320-21	o	CONNECTOR (1.5MM)(SMD) 2P MALE
CN11	1-568-331-11	s	CONNECTOR, BOARD TO BOARD 10P
CN12	1-568-331-11	s	CONNECTOR, BOARD TO BOARD 10P
CP1	1-760-278-11	s	OSCILLATOR, CRYSTAL (VCO TYPE) [for J,UC]
CP1	1-767-206-11	s	OSCILLATOR, CRYSTAL 28.5MHz [for CE]
D1	8-719-029-63	s	DIODE RD4.3UH-T1
D2	8-719-029-63	s	DIODE RD4.3UH-T1
D5	8-719-059-51	s	DIODE MA3J142E0LS0
D6	8-719-059-51	s	DIODE MA3J142E0LS0
D7	8-719-059-51	s	DIODE MA3J142E0LS0
D8	8-719-059-51	s	DIODE MA3J142E0LS0
D9	8-719-938-78	s	DIODE SB10-05PCP
D10	8-719-938-78	s	DIODE SB10-05PCP
D11	8-719-059-51	s	DIODE MA3J142E0LS0
D12	8-719-938-78	s	DIODE SB10-05PCP

(TG-175/175(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
FB1	1-543-775-11	s	FILTER, EMI
FB2	1-543-775-11	s	FILTER, EMI
FB3	1-543-775-11	s	FILTER, EMI
FB4	1-543-775-11	s	FILTER, EMI
FB5	1-543-775-11	s	FILTER, EMI
FB6	1-543-775-11	s	FILTER, EMI
FB7	1-543-775-11	s	FILTER, EMI
FB8	1-543-775-11	s	FILTER, EMI
IC1	8-759-095-56	s	IC X24C08SC7000
IC2	8-759-083-94	s	IC TC7W74FU
IC3	8-759-148-39	s	IC CXD8095Q
IC5	8-759-076-06	s	IC TL064CPW
IC6	8-759-076-06	s	IC TL064CPW
IC7	8-759-234-20	s	IC TC7S08F
IC8	8-759-234-20	s	IC TC7S08F
IC9	8-752-353-25	s	IC CXD1265R
IC10	8-759-082-58	s	IC TC7W08FU
IC11	8-759-082-58	s	IC TC7W08FU
IC12	8-759-049-60	s	IC SN74HC08APW-E05
IC13	8-759-635-27	s	IC M62352GP
IC14	8-759-172-33	s	IC UPD16502GS(1)
IC15	8-759-172-33	s	IC UPD16502GS(1)
IC16	8-759-172-33	s	IC UPD16502GS(1)
IC17	8-759-058-58	s	IC TC7S04FU(TE85R)
IC18	8-759-058-58	s	IC TC7S04FU(TE85R)
IC19	8-759-058-58	s	IC TC7S04FU(TE85R)
IC20	8-759-083-94	s	IC TC7W74FU
IC21	8-759-058-55	s	IC TC7S02FU-TE85L
IC22	8-759-185-42	s	IC LM4040AIM3-2.5
IC23	8-759-058-62	s	IC TC7S08FU(TE85R)
L1	1-410-389-31	s	INDUCTOR CHIP 47uH
L2	1-410-389-31	s	INDUCTOR CHIP 47uH
L3	1-410-389-31	s	INDUCTOR CHIP 47uH
L4	1-410-369-11	s	INDUCTOR CHIP 1uH
L5	1-410-377-31	s	INDUCTOR CHIP 4.7uH
L6	1-410-369-11	s	INDUCTOR CHIP 1uH
L7	1-410-389-31	s	INDUCTOR CHIP 47uH
L8	1-412-282-41	s	INDUCTOR 470uH
L9	1-410-389-31	s	INDUCTOR CHIP 47uH
L10	1-410-389-31	s	INDUCTOR CHIP 47uH
L11	1-410-369-11	s	INDUCTOR CHIP 1uH
L12	1-410-369-11	s	INDUCTOR CHIP 1uH
Q1	8-729-101-07	s	TRANSISTOR 2SB798
Q2	8-729-101-07	s	TRANSISTOR 2SB798
Q3	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q4	8-729-101-07	s	TRANSISTOR 2SB798
Q5	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q6	8-729-101-07	s	TRANSISTOR 2SB798
Q7	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q8	8-729-101-07	s	TRANSISTOR 2SB798
Q9	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
Q13	8-729-120-28	s	TRANSISTOR 2SC1623-L5L6
R1	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R2	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

(TG-175/175(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R3	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R4	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R5	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R6	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R7	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R8	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R9	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R10	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R11	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R12	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R13	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R14	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R15	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R16	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R17	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R19	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R20	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R21	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R22	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R23	1-218-716-11	s	METAL 10K 0.50% 1/16W
R24	1-218-716-11	s	METAL 10K 0.50% 1/16W
R25	1-218-732-11	s	METAL 47K 0.50% 1/16W
R26	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R27	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R28	1-218-725-11	s	METAL 24K 0.50% 1/16W
R29	1-218-736-11	s	METAL 68K 0.50% 1/16W
R30	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R31	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R32	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R33	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R34	1-218-741-11	s	METAL 110K 0.50% 1/16W
R35	1-218-716-11	s	METAL 10K 0.50% 1/16W
R36	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R37	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R38	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R39	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R40	1-218-741-11	s	METAL 110K 0.50% 1/16W
R41	1-218-724-11	s	METAL 22K 0.50% 1/16W
R42	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R43	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R44	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R45	1-218-883-11	s	METAL 33K 0.50% 1/16W
R46	1-218-688-11	s	METAL 680 0.50% 1/16W
R47	1-218-725-11	s	METAL 24K 0.50% 1/16W
R48	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R49	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R50	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R52	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R53	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R54	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R55	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R56	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R57	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R58	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R59	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R60	1-216-799-11	s	METAL, CHIP 15 5% 1/16W
R61	1-216-799-11	s	METAL, CHIP 15 5% 1/16W
R62	1-216-801-11	s	METAL, CHIP 22 5% 1/16W
R63	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W

(TG-175/175(P) BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R64	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R65	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R66	1-216-830-11	s	METAL, CHIP 5.6K 5% 1/16W
R67	1-216-846-11	s	METAL, CHIP 120K 5% 1/16W
R68	1-218-696-11	s	METAL 1.5K 0.50% 1/16W
R71	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R72	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R73	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R74	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R75	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R76	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R77	1-216-803-11	s	METAL, CHIP 33 5% 1/16W
R78	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R79	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R80	1-218-676-11	s	METAL 220 0.50% 1/16W
R81	1-218-676-11	s	METAL 220 0.50% 1/16W
R82	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R83	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R84	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R85	1-216-789-11	s	METAL, CHIP 2.2 5% 1/16W
R87	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R88	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

VA-169 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8311-123-A	o	MOUNTED CIRCUIT BOARD, VA-169
3pcs	3-729-061-01	s	SCREW (M2X4.5) (TYPE 1)
C1	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C2	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C3	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C4	1-164-156-11	s	CERAMIC 0.1uF 25V
C5	1-164-156-11	s	CERAMIC 0.1uF 25V
C6	1-164-156-11	s	CERAMIC 0.1uF 25V
C7	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C8	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C9	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C10	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C11	1-104-563-11	s	FILM, CHIP 0.1uF 5% 16V
C12	1-162-957-11	s	CERAMIC 220PF 5% 50V
C13	1-164-156-11	s	CERAMIC 0.1uF 25V
C14	1-164-156-11	s	CERAMIC 0.1uF 25V
C15	1-164-156-11	s	CERAMIC 0.1uF 25V
C16	1-164-156-11	s	CERAMIC 0.1uF 25V
C17	1-164-156-11	s	CERAMIC 0.1uF 25V
C18	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C19	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C20	1-164-156-11	s	CERAMIC 0.1uF 25V
C21	1-164-156-11	s	CERAMIC 0.1uF 25V
C22	1-164-156-11	s	CERAMIC 0.1uF 25V
C27	1-164-156-11	s	CERAMIC 0.1uF 25V
C28	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C29	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C30	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C31	1-164-156-11	s	CERAMIC 0.1uF 25V
C33	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C34	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C35	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C36	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C37	1-164-156-11	s	CERAMIC 0.1uF 25V
C38	1-164-156-11	s	CERAMIC 0.1uF 25V
C39	1-164-156-11	s	CERAMIC 0.1uF 25V
C40	1-164-156-11	s	CERAMIC 0.1uF 25V
C41	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C42	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C43	1-164-156-11	s	CERAMIC 0.1uF 25V
C44	1-104-823-11	s	TANTALUM, CHIP 47uF 20% 16V
C45	1-104-852-11	s	TANTALUM, CHIP 22uF 20% 10V
C46	1-107-689-21	s	TANTALUM 1uF 20% 35V
C47	1-164-156-11	s	CERAMIC 0.1uF 25V
C48	1-164-156-11	s	CERAMIC 0.1uF 25V
C49	1-164-156-11	s	CERAMIC 0.1uF 25V
C50	1-164-156-11	s	CERAMIC 0.1uF 25V
C51	1-164-156-11	s	CERAMIC 0.1uF 25V
C52	1-164-156-11	s	CERAMIC 0.1uF 25V
C53	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C101	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C102	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C103	1-164-156-11	s	CERAMIC 0.1uF 25V
C104	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C105	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C106	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C107	1-164-156-11	s	CERAMIC 0.1uF 25V
C108	1-164-156-11	s	CERAMIC 0.1uF 25V

(VA-169 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C109	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C110	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C111	1-164-156-11	s	CERAMIC 0.1uF 25V
C113	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C114	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C115	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C116	1-164-156-11	s	CERAMIC 0.1uF 25V
C117	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C118	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C119	1-164-156-11	s	CERAMIC 0.1uF 25V
C120	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C121	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C122	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C123	1-164-156-11	s	CERAMIC 0.1uF 25V
C124	1-164-156-11	s	CERAMIC 0.1uF 25V
C125	1-164-156-11	s	CERAMIC 0.1uF 25V
C126	1-164-156-11	s	CERAMIC 0.1uF 25V
C127	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C128	1-107-689-21	s	TANTALUM 1uF 20% 35V
C129	1-164-156-11	s	CERAMIC 0.1uF 25V
C130	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C131	1-164-156-11	s	CERAMIC 0.1uF 25V
C132	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C133	1-164-156-11	s	CERAMIC 0.1uF 25V
C134	1-164-156-11	s	CERAMIC 0.1uF 25V
C135	1-164-156-11	s	CERAMIC 0.1uF 25V
C136	1-107-689-21	s	TANTALUM 1uF 20% 35V
C137	1-117-136-21	s	ELECT 10uF 20% 6.3V
C138	1-164-156-11	s	CERAMIC 0.1uF 25V
C139	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C140	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C141	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C144	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C145	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C146	1-104-914-11	s	TANTALUM 22uF 20% 16V
C147	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C148	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C149	1-117-139-21	s	ELECT 2.2uF 20% 35V
C150	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C151	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C152	1-117-136-21	s	ELECT 10uF 20% 6.3V
C153	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C154	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C155	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C156	1-164-156-11	s	CERAMIC 0.1uF 25V
C157	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C158	1-164-156-11	s	CERAMIC 0.1uF 25V
C159	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C160	1-164-156-11	s	CERAMIC 0.1uF 25V
C161	1-164-156-11	s	CERAMIC 0.1uF 25V
C162	1-164-156-11	s	CERAMIC 0.1uF 25V
C163	1-164-156-11	s	CERAMIC 0.1uF 25V
C164	1-164-156-11	s	CERAMIC 0.1uF 25V
C165	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C166	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C168	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C169	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C170	1-164-315-11	s	CERAMIC 470PF 5% 50V
C171	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C201	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C202	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C203	1-164-156-11	s	CERAMIC 0.1uF 25V
C204	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C205	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C206	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C207	1-164-156-11	s	CERAMIC 0.1uF 25V
C208	1-164-156-11	s	CERAMIC 0.1uF 25V
C209	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C210	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C211	1-164-156-11	s	CERAMIC 0.1uF 25V
C213	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C214	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C215	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C216	1-164-156-11	s	CERAMIC 0.1uF 25V
C217	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C218	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C219	1-164-156-11	s	CERAMIC 0.1uF 25V
C220	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C221	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C222	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C223	1-164-156-11	s	CERAMIC 0.1uF 25V
C224	1-164-156-11	s	CERAMIC 0.1uF 25V
C225	1-164-156-11	s	CERAMIC 0.1uF 25V
C226	1-164-156-11	s	CERAMIC 0.1uF 25V
C227	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C228	1-107-689-21	s	TANTALUM 1uF 20% 35V
C229	1-164-156-11	s	CERAMIC 0.1uF 25V
C230	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C231	1-164-156-11	s	CERAMIC 0.1uF 25V
C232	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C233	1-164-156-11	s	CERAMIC 0.1uF 25V
C234	1-164-156-11	s	CERAMIC 0.1uF 25V
C235	1-164-156-11	s	CERAMIC 0.1uF 25V
C236	1-107-689-21	s	TANTALUM 1uF 20% 35V
C237	1-117-136-21	s	ELECT 10uF 20% 6.3V
C238	1-164-156-11	s	CERAMIC 0.1uF 25V
C239	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C240	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C241	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C244	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C245	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C246	1-104-914-11	s	TANTALUM 22uF 20% 16V
C247	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C248	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C249	1-117-139-21	s	ELECT 2.2uF 20% 35V
C250	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C251	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C252	1-117-136-21	s	ELECT 10uF 20% 6.3V
C253	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C254	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C255	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C256	1-164-156-11	s	CERAMIC 0.1uF 25V
C257	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C258	1-164-156-11	s	CERAMIC 0.1uF 25V
C259	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C260	1-164-156-11	s	CERAMIC 0.1uF 25V
C261	1-164-156-11	s	CERAMIC 0.1uF 25V
C262	1-164-156-11	s	CERAMIC 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C263	1-164-156-11	s	CERAMIC 0.1uF 25V
C264	1-164-156-11	s	CERAMIC 0.1uF 25V
C265	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C266	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C268	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C269	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C270	1-164-315-11	s	CERAMIC 470PF 5% 50V
C271	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V
C301	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C302	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C303	1-164-156-11	s	CERAMIC 0.1uF 25V
C304	1-162-921-11	s	CERAMIC, CHIP 33PF 5% 50V
C305	1-162-923-11	s	CERAMIC, CHIP 47PF 5% 50V
C306	1-162-916-11	s	CERAMIC, CHIP 12PF 5% 50V
C307	1-164-156-11	s	CERAMIC 0.1uF 25V
C308	1-164-156-11	s	CERAMIC 0.1uF 25V
C309	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C310	1-162-917-11	s	CERAMIC, CHIP 15PF 5% 50V
C311	1-164-156-11	s	CERAMIC 0.1uF 25V
C313	1-162-905-11	s	CERAMIC 1PF 0.25PF 50V
C314	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C315	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C316	1-164-156-11	s	CERAMIC 0.1uF 25V
C317	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C318	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C319	1-164-156-11	s	CERAMIC 0.1uF 25V
C320	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C321	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C322	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C323	1-164-156-11	s	CERAMIC 0.1uF 25V
C324	1-164-156-11	s	CERAMIC 0.1uF 25V
C325	1-164-156-11	s	CERAMIC 0.1uF 25V
C326	1-164-156-11	s	CERAMIC 0.1uF 25V
C327	1-162-919-11	s	CERAMIC, CHIP 22PF 5% 50V
C328	1-107-689-21	s	TANTALUM 1uF 20% 35V
C329	1-164-156-11	s	CERAMIC 0.1uF 25V
C330	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C331	1-164-156-11	s	CERAMIC 0.1uF 25V
C332	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C333	1-164-156-11	s	CERAMIC 0.1uF 25V
C334	1-164-156-11	s	CERAMIC 0.1uF 25V
C335	1-164-156-11	s	CERAMIC 0.1uF 25V
C336	1-107-689-21	s	TANTALUM 1uF 20% 35V
C337	1-117-136-21	s	ELECT 10uF 20% 6.3V
C338	1-164-156-11	s	CERAMIC 0.1uF 25V
C339	1-162-970-11	s	CERAMIC, CHIP 0.01uF 10% 25V
C340	1-104-851-11	s	TANTALUM, CHIP 10uF 20% 10V
C341	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C344	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C345	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C346	1-104-914-11	s	TANTALUM 22uF 20% 16V
C347	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C348	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C349	1-117-139-21	s	ELECT 2.2uF 20% 35V
C350	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C351	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C352	1-117-136-21	s	ELECT 10uF 20% 6.3V
C353	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C354	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V

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Ref. No. or Q'ty	Part No.	SP	Description
C355	1-113-682-11	s	TANTALUM CHIP 33uF 20% 10V
C356	1-164-156-11	s	CERAMIC 0.1uF 25V
C357	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C358	1-164-156-11	s	CERAMIC 0.1uF 25V
C359	1-107-686-11	s	TANTALUM, CHIP 4.7uF 20% 16V
C360	1-164-156-11	s	CERAMIC 0.1uF 25V
C361	1-164-156-11	s	CERAMIC 0.1uF 25V
C362	1-164-156-11	s	CERAMIC 0.1uF 25V
C363	1-164-156-11	s	CERAMIC 0.1uF 25V
C364	1-164-156-11	s	CERAMIC 0.1uF 25V
C365	1-110-569-11	s	TANTALUM 47uF 20% 6.3V
C366	1-162-907-11	s	CERAMIC, CHIP 2PF 50V
C368	1-162-915-11	s	CERAMIC, CHIP 10PF 0.5PF 50V
C369	1-162-910-11	s	CERAMIC 5PF 0.25PF 50V
C370	1-164-315-11	s	CERAMIC 470PF 5% 50V
C371	1-162-925-11	s	CERAMIC, CHIP 68PF 5% 50V
D1	8-719-421-69	s	DIODE MA133
D4	8-719-029-63	s	DIODE RD4.3UH-T1
D5	8-719-029-63	s	DIODE RD4.3UH-T1
D101	8-719-421-69	s	DIODE MA133
D102	8-719-421-69	s	DIODE MA133
D201	8-719-421-69	s	DIODE MA133
D202	8-719-421-69	s	DIODE MA133
D301	8-719-421-69	s	DIODE MA133
D302	8-719-421-69	s	DIODE MA133
FL101	1-233-342-11	s	FILTER, TRAP
FL201	1-233-342-11	s	FILTER, TRAP
FL301	1-233-342-11	s	FILTER, TRAP
IC1	8-759-635-27	s	IC M62352GP
IC2	8-759-059-50	s	IC MB88351PFV
IC3	8-759-066-61	s	IC TC4053BFS
IC4	8-759-076-06	s	IC TL064CPW
IC5	8-759-066-61	s	IC TC4053BFS
IC7	8-759-050-14	s	IC SN74HC175APW-E05
IC9	8-759-058-62	s	IC TC7S08FU(TE85R)
IC10	8-759-049-60	s	IC SN74HC08APW-E05
IC11	8-759-049-96	s	IC SN74HC32APW-E20
IC12	8-759-079-61	s	IC TC74VHC74FS(EL)
IC13	8-759-049-58	s	IC SN74HC04APW-E05
IC14	8-759-173-16	s	IC TL062CPW
IC15	8-759-076-06	s	IC TL064CPW
IC101	8-759-066-61	s	IC TC4053BFS
IC102	8-759-271-18	s	IC NJM1496V
IC103	8-759-066-61	s	IC TC4053BFS
IC105	8-759-271-18	s	IC NJM1496V
IC106	8-759-066-61	s	IC TC4053BFS
IC107	8-759-076-06	s	IC TL064CPW
IC108	8-752-376-32	s	IC CXD2310AR
IC201	8-759-066-61	s	IC TC4053BFS
IC202	8-759-271-18	s	IC NJM1496V
IC203	8-759-066-61	s	IC TC4053BFS
IC205	8-759-271-18	s	IC NJM1496V
IC206	8-759-066-61	s	IC TC4053BFS
IC207	8-759-076-06	s	IC TL064CPW
IC208	8-752-376-32	s	IC CXD2310AR
IC301	8-759-066-61	s	IC TC4053BFS
IC302	8-759-271-18	s	IC NJM1496V
IC303	8-759-066-61	s	IC TC4053BFS

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Ref. No. or Q'ty	Part No.	SP	Description
IC305	8-759-271-18	s	IC NJM1496V
IC306	8-759-066-61	s	IC TC4053BFS
IC307	8-759-076-06	s	IC TL064CPW
IC308	8-752-376-32	s	IC CXD2310AR
L1	1-412-951-11	s	INDUCTOR 10uH
L101	1-412-961-11	s	INDUCTOR 68uH
L102	1-412-957-11	s	INDUCTOR 33uH
L103	1-412-951-11	s	INDUCTOR 10uH
L104	1-412-951-11	s	INDUCTOR 10uH
L201	1-412-961-11	s	INDUCTOR 68uH
L202	1-412-957-11	s	INDUCTOR 33uH
L203	1-412-951-11	s	INDUCTOR 10uH
L204	1-412-951-11	s	INDUCTOR 10uH
L301	1-412-961-11	s	INDUCTOR 68uH
L302	1-412-957-11	s	INDUCTOR 33uH
L303	1-412-951-11	s	INDUCTOR 10uH
L304	1-412-951-11	s	INDUCTOR 10uH
Q1	8-729-402-84	s	TRANSISTOR XN4601
Q2	8-729-420-20	s	TRANSISTOR XN4312
Q3	8-729-402-19	s	TRANSISTOR XN6501
Q4	8-729-402-84	s	TRANSISTOR XN4601
Q6	8-729-101-07	s	TRANSISTOR 2SB798
Q7	8-729-807-51	s	TRANSISTOR 2SD1623-S
Q8	8-729-101-07	s	TRANSISTOR 2SB798
Q9	8-729-101-07	s	TRANSISTOR 2SB798
Q101	8-729-402-78	s	TRANSISTOR XN6401
Q102	8-729-402-19	s	TRANSISTOR XN6501
Q103	8-729-117-72	s	TRANSISTOR 2SC4178
Q104	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q105	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q106	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q107	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q108	8-729-117-72	s	TRANSISTOR 2SC4178
Q109	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q110	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q111	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q112	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q113	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q114	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q115	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q116	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q117	8-729-403-29	s	TRANSISTOR XN6435
Q118	8-729-403-32	s	TRANSISTOR XN6534
Q119	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q120	8-729-402-19	s	TRANSISTOR XN6501
Q121	8-729-402-78	s	TRANSISTOR XN6401
Q201	8-729-402-78	s	TRANSISTOR XN6401
Q202	8-729-402-19	s	TRANSISTOR XN6501
Q203	8-729-117-72	s	TRANSISTOR 2SC4178
Q204	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q205	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q206	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q207	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q208	8-729-117-72	s	TRANSISTOR 2SC4178
Q209	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q210	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q211	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q212	8-729-143-07	s	TRANSISTOR 2SA1610-Y33

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Ref. No. or Q'ty	Part No.	SP	Description
Q213	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q214	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q215	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q216	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q217	8-729-403-29	s	TRANSISTOR XN6435
Q218	8-729-403-32	s	TRANSISTOR XN6534
Q219	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q220	8-729-402-19	s	TRANSISTOR XN6501
Q221	8-729-402-78	s	TRANSISTOR XN6401
Q301	8-729-402-78	s	TRANSISTOR XN6401
Q302	8-729-402-19	s	TRANSISTOR XN6501
Q303	8-729-117-72	s	TRANSISTOR 2SC4178
Q304	8-729-142-90	s	TRANSISTOR 2SK853-K5
Q305	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q306	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q307	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q308	8-729-117-72	s	TRANSISTOR 2SC4178
Q309	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q310	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q311	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q312	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q313	8-729-026-53	s	TRANSISTOR 2SA1576A-T106-QR
Q314	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q315	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q316	8-729-905-38	s	TRANSISTOR 2SC4081T106R
Q317	8-729-403-29	s	TRANSISTOR XN6435
Q318	8-729-403-32	s	TRANSISTOR XN6534
Q319	8-729-143-07	s	TRANSISTOR 2SA1610-Y33
Q320	8-729-402-19	s	TRANSISTOR XN6501
Q321	8-729-402-78	s	TRANSISTOR XN6401
R1	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R2	1-218-883-11	s	METAL 33K 0.50% 1/16W
R3	1-218-883-11	s	METAL 33K 0.50% 1/16W
R4	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R5	1-218-739-11	s	METAL 91K 0.50% 1/16W
R6	1-218-883-11	s	METAL 33K 0.50% 1/16W
R7	1-218-883-11	s	METAL 33K 0.50% 1/16W
R8	1-218-732-11	s	METAL 47K 0.50% 1/16W
R9	1-218-720-11	s	METAL 15K 0.50% 1/16W
R10	1-218-739-11	s	METAL 91K 0.50% 1/16W
R11	1-218-883-11	s	METAL 33K 0.50% 1/16W
R12	1-218-883-11	s	METAL 33K 0.50% 1/16W
R13	1-218-732-11	s	METAL 47K 0.50% 1/16W
R14	1-218-720-11	s	METAL 15K 0.50% 1/16W
R15	1-218-739-11	s	METAL 91K 0.50% 1/16W
R16	1-218-883-11	s	METAL 33K 0.50% 1/16W
R17	1-218-883-11	s	METAL 33K 0.50% 1/16W
R18	1-218-732-11	s	METAL 47K 0.50% 1/16W
R19	1-218-720-11	s	METAL 15K 0.50% 1/16W
R20	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R21	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R22	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R23	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R24	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R25	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R26	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R27	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R28	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R30	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R31	1-218-716-11	s	METAL 10K 0.50% 1/16W
R32	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R33	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R34	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R35	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R36	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R37	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R38	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R39	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R40	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R41	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R42	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R44	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R46	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R47	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R48	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R50	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R51	1-218-720-11	s	METAL 15K 0.50% 1/16W
R52	1-218-883-11	s	METAL 33K 0.50% 1/16W
R53	1-218-883-11	s	METAL 33K 0.50% 1/16W
R54	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R55	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R58	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R59	1-218-729-11	s	METAL 36K 0.50% 1/16W
R60	1-218-881-11	s	METAL, CHIP 27K 0.50% 1/16W
R61	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R62	1-218-883-11	s	METAL 33K 0.50% 1/16W
R63	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R64	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R65	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R66	1-218-883-11	s	METAL 33K 0.50% 1/16W
R67	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R68	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R69	1-218-706-11	s	METAL 3.9K 0.50% 1/16W
R70	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R71	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R72	1-216-845-11	s	METAL, CHIP 100K 5% 1/16W
R74	1-216-805-11	s	METAL, CHIP 47 5% 1/16W
R101	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R102	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R103	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R104	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R105	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R106	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R107	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R108	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R109	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R110	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R111	1-218-752-11	s	METAL 330K 0.50% 1/16W
R112	1-218-752-11	s	METAL 330K 0.50% 1/16W
R113	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R114	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R115	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R116	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R117	1-218-856-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R118	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R119	1-218-829-11	s	METAL, CHIP 180 0.50% 1/16W
R120	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R121	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R122	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R123	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R125	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R126	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R127	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R128	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R129	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R130	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R131	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R132	1-218-740-11	s	METAL 100K 0.50% 1/16W
R133	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R134	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R135	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R136	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R137	1-218-874-11	s	METAL, CHIP 13K 0.50% 1/16W
R138	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R139	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R140	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R141	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R142	1-218-659-11	s	METAL 43 0.50% 1/16W
R143	1-218-660-91	s	METAL 47 0.50% 1/16W
R144	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R145	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R146	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R147	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R148	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R149	1-218-748-11	s	METAL 220K 0.50% 1/16W
R150	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R152	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R154	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R155	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R156	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R157	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R158	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R159	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R160	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R161	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R162	1-218-716-11	s	METAL 10K 0.50% 1/16W
R163	1-218-858-11	s	METAL, CHIP 3K 0.50% 1/16W
R164	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R165	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R166	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R167	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R168	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R169	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R170	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R171	1-218-864-11	s	METAL 5.1K 0.50% 1/16W
R172	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R173	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R174	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R175	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R176	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R177	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R178	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R179	1-218-901-11	s	METAL, CHIP 180K 0.50% 1
R180	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R181	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R182	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R183	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R186	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R189	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R190	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R191	1-216-863-11	s	METAL 3.3M 5% 1/16W
R192	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R194	1-218-752-11	s	METAL 330K 0.50% 1/16W
R195	1-218-758-11	s	METAL, CHIP 180K 0.50% 1/10W
R196	1-218-764-11	s	METAL 330K 0.50% 1/10W
R201	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R202	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R203	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R204	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R205	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R206	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R207	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R208	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R209	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R210	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R211	1-218-752-11	s	METAL 330K 0.50% 1/16W
R212	1-218-752-11	s	METAL 330K 0.50% 1/16W
R213	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R214	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R215	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R216	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R217	1-218-856-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R218	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R219	1-218-829-11	s	METAL, CHIP 180 0.50% 1/16W
R220	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R221	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R222	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R223	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R225	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R226	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R227	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R228	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R229	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R230	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R231	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R232	1-218-740-11	s	METAL 100K 0.50% 1/16W
R233	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R234	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R235	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R236	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R237	1-218-874-11	s	METAL, CHIP 13K 0.50% 1/16W
R238	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R239	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R240	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R241	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R242	1-218-659-11	s	METAL 43 0.50% 1/16W
R243	1-218-660-91	s	METAL 47 0.50% 1/16W
R244	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R245	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R246	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R247	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R248	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R249	1-218-748-11	s	METAL 220K 0.50% 1/16W
R250	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R252	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R254	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R255	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R256	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R257	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R258	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R259	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R260	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R261	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R262	1-218-716-11	s	METAL 10K 0.50% 1/16W
R263	1-218-858-11	s	METAL, CHIP 3K 0.50% 1/16W
R264	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R265	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R266	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R267	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R268	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R269	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R270	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R271	1-218-864-11	s	METAL 5.1K 0.50% 1/16W
R272	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R273	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R274	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R275	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R276	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R277	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R278	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R279	1-218-901-11	s	METAL, CHIP 180K 0.50% 1
R280	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R281	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R282	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R283	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R286	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R289	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R290	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R291	1-216-863-11	s	METAL 3.3M 5% 1/16W
R292	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R294	1-218-752-11	s	METAL 330K 0.50% 1/16W
R295	1-218-758-11	s	METAL, CHIP 180K 0.50% 1/10W
R296	1-218-764-11	s	METAL 330K 0.50% 1/10W
R301	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R302	1-218-698-11	s	METAL 1.8K 0.50% 1/16W
R303	1-216-841-11	s	METAL, CHIP 47K 5% 1/16W
R304	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R305	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R306	1-218-730-11	s	METAL, CHIP 39K 0.50% 1/16W
R307	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R308	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R309	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R310	1-218-697-11	s	METAL 1.6K 0.50% 1/16W
R311	1-218-752-11	s	METAL 330K 0.50% 1/16W
R312	1-218-752-11	s	METAL 330K 0.50% 1/16W
R313	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R314	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R315	1-216-834-11	s	METAL, CHIP 12K 5% 1/16W
R316	1-216-857-11	s	METAL, CHIP 1M 5% 1/16W
R317	1-218-856-11	s	METAL, CHIP 2.4K 0.50% 1/16W
R318	1-218-722-11	s	METAL, CHIP 18K 0.50% 1/16W
R319	1-218-829-11	s	METAL, CHIP 180 0.50% 1/16W
R320	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R321	1-216-821-11	s	METAL, CHIP 1K 5% 1/16W
R322	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R323	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R325	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R326	1-216-837-11	s	METAL, CHIP 22K 5% 1/16W
R327	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R328	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R329	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R330	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R331	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R332	1-218-740-11	s	METAL 100K 0.50% 1/16W
R333	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R334	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R335	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R336	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R337	1-218-874-11	s	METAL, CHIP 13K 0.50% 1/16W
R338	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R339	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R340	1-216-825-11	s	METAL, CHIP 2.2K 5% 1/16W
R341	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R342	1-218-659-11	s	METAL 43 0.50% 1/16W
R343	1-218-660-91	s	METAL 47 0.50% 1/16W
R344	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R345	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R346	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R347	1-218-702-11	s	METAL, CHIP 2.7K 0.50% 1/16W
R348	1-218-692-11	s	METAL, CHIP 1K 0.50% 1/16W
R349	1-218-748-11	s	METAL 220K 0.50% 1/16W
R350	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R352	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R354	1-216-839-11	s	METAL, CHIP 33K 5% 1/16W
R355	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R356	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R357	1-216-827-11	s	METAL, CHIP 3.3K 5% 1/16W
R358	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R359	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R360	1-218-684-11	s	METAL, CHIP 470 0.50% 1/16W
R361	1-218-851-11	s	METAL, CHIP 1.5K 0.50% 1/16W
R362	1-218-716-11	s	METAL 10K 0.50% 1/16W
R363	1-218-858-11	s	METAL, CHIP 3K 0.50% 1/16W
R364	1-218-700-11	s	METAL 2.2K 0.50% 1/16W
R365	1-218-837-11	s	METAL, CHIP 390 0.50% 1/16W
R366	1-218-838-11	s	METAL, CHIP 430 0.50% 1/16W
R367	1-218-694-11	s	METAL, CHIP 1.2K 0.50% 1/16W
R368	1-216-826-11	s	METAL, CHIP 2.7K 5% 1/16W
R369	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R370	1-218-708-11	s	METAL 4.7K 0.50% 1/16W
R371	1-218-864-11	s	METAL 5.1K 0.50% 1/16W
R372	1-216-823-11	s	METAL, CHIP 1.5K 5% 1/16W
R373	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R374	1-216-809-11	s	METAL, CHIP 100 5% 1/16W
R375	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R376	1-216-829-11	s	METAL, CHIP 4.7K 5% 1/16W
R377	1-218-714-11	s	METAL 8.2K 0.50% 1/16W
R378	1-218-873-11	s	METAL, CHIP 12K 0.50% 1/16W
R379	1-218-901-11	s	METAL, CHIP 180K 0.50% 1
R380	1-216-817-11	s	METAL, CHIP 470 5% 1/16W
R381	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R382	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R383	1-216-833-11	s	METAL, CHIP 10K 5% 1/16W
R386	1-216-864-11	s	METAL, CHIP 0 5% 1/16W

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Ref. No. or Q'ty	Part No.	SP	Description
R389	1-216-797-11	s	METAL, CHIP 10 5% 1/16W
R390	1-216-813-11	s	METAL, CHIP 220 5% 1/16W
R391	1-216-863-11	s	METAL 3.3M 5% 1/16W
R392	1-216-864-11	s	METAL, CHIP 0 5% 1/16W
R394	1-218-752-11	s	METAL 330K 0.50% 1/16W
R395	1-218-758-11	s	METAL, CHIP 180K 0.50% 1/10W
R396	1-218-764-11	s	METAL 330K 0.50% 1/10W
RB1	1-236-904-11	s	RESISTOR, BLOCK CHIP 1K
RB2	1-236-907-11	s	RESISTOR BLOCK, CHIP 100KX4
RB101	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB102	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB103	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB201	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB202	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB203	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB301	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB302	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4
RB303	1-239-416-11	s	RESISTOR BLOCK, CHIP 220X4

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-547-985-11	o	FILTER UNIT, OPTICAL
1pc	1-777-768-11	s	WIRE, FLAT TYPE (30 CORE) (MB-TG)
3pcs	1-956-511-11	o	HARNESS, SUB (DEF)
1pc	1-956-512-11	o	HARNESS, SUB (FL) (MB-SE)
1pc	1-956-514-11	o	HARNESS, SUB (PA187-1)
1pc	1-956-515-11	o	HARNESS, SUB (PA187-2)
1pc	1-956-527-11	o	HARNESS, SUB (VCO)
1pc	1-473-883-11	s	CONVERTER UNIT, DC-DC
3pcs	1-777-764-11	s	WIRE, FLEXIBLE CARD (20 CORE) (MB-CN)
FB101	1-500-249-11	s	BEAD, FERRITE (CASE)
FB102	1-500-249-11	s	BEAD, FERRITE (CASE)
FB103	1-500-249-11	s	BEAD, FERRITE (CASE)
FB104	1-543-936-11	s	CORE (FPC)
FB105	1-543-936-11	s	CORE (FPC)
FB106	1-543-936-11	s	CORE (FPC)

SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
1pc	3-764-889-01	o	CHART, ADJUSTMENT
1pc	3-858-217-01	o	MANUAL, INSTRUCTION (JAPANESE)
1pc	3-858-217-11	o	MANUAL, INSTRUCTION (ENGLISH)
1pc	3-858-217-21	o	MANUAL, INSTRUCTION (FRENCH)
1pc	3-858-217-31	o	MANUAL, INSTRUCTION (GERMAN)
1pc	3-858-217-41	o	MANUAL, INSTRUCTION (ITALIAN)
1pc	3-858-217-51	o	MANUAL, INSTRUCTION (CHINESE)

EXPLODED VIEW (VCL-916BYA)

VCL-916BYA

No.	Part No.	SP	Description
1	3-707-245-01	o	CAP, HOOD
2	3-707-246-01	o	CAP, DUST
3	3-707-247-01	o	LEVER, ZOOM
4	3-708-171-01	s	HOOD, LENS